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AUTHORITY
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MC REPORT 011
Volume 14

AD 916557

**ACOUSTIC ENVIRONMENTAL SCENARIOS
AND
PREDICTIONS FOR ASW**

**VOLUME 14
AREA 5, WINTER
PREDICTIONS FOR PASSIVE SONAR**

October 1972

AD No. _____
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LONG RANGE ACOUSTIC PROPAGATION PROJECT



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14 MC-611-Vol-14

6
ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS
FOR ASW.

Volume XIV. Area 5 WINTER
PREDICTIONS FOR PASSIVE SONAR.

Vol - 10

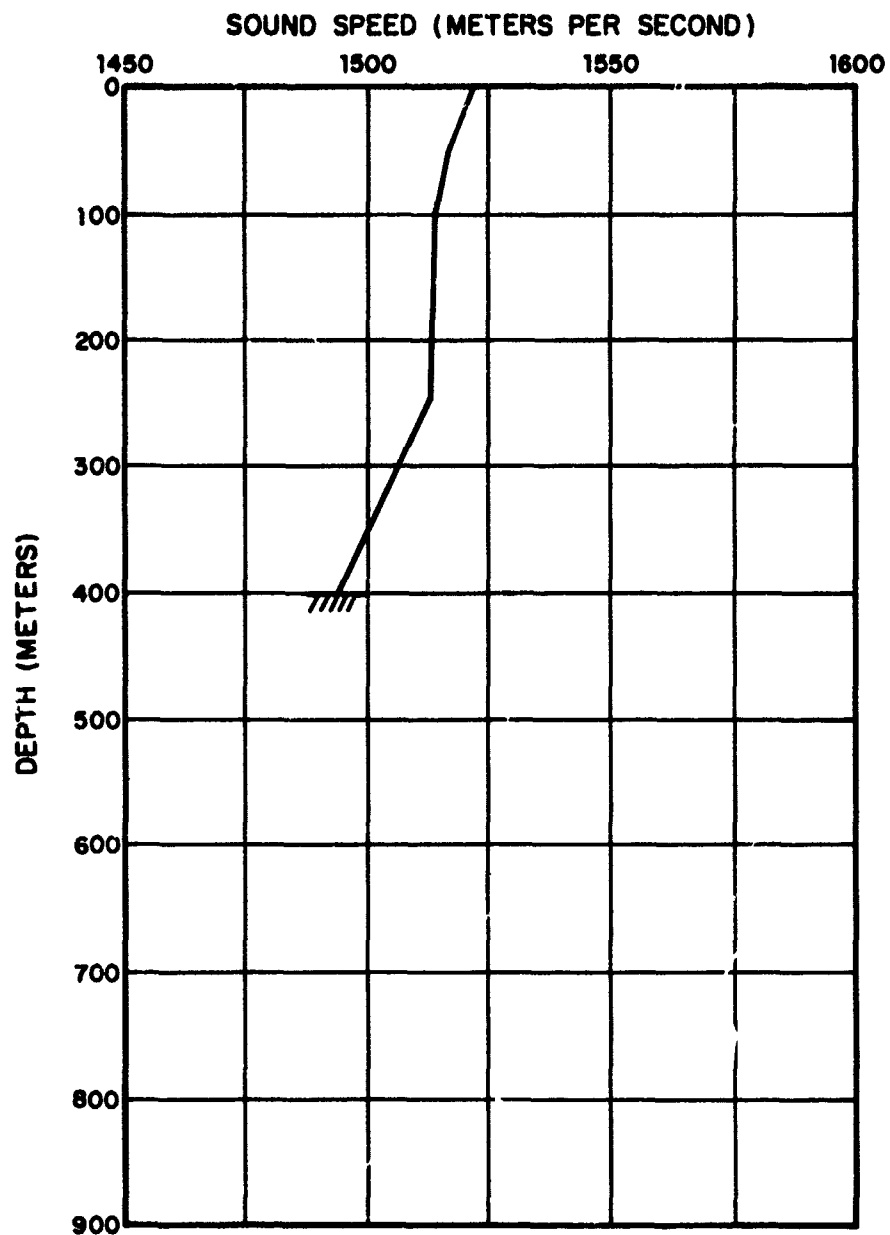
Vol - 10 AD-916 5566

Vol 14

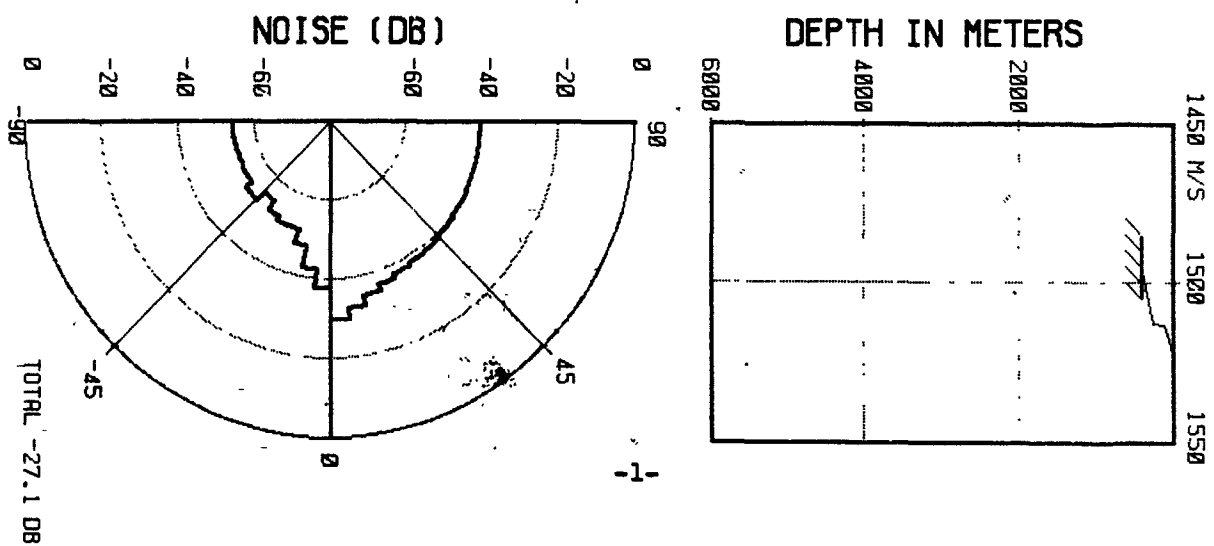
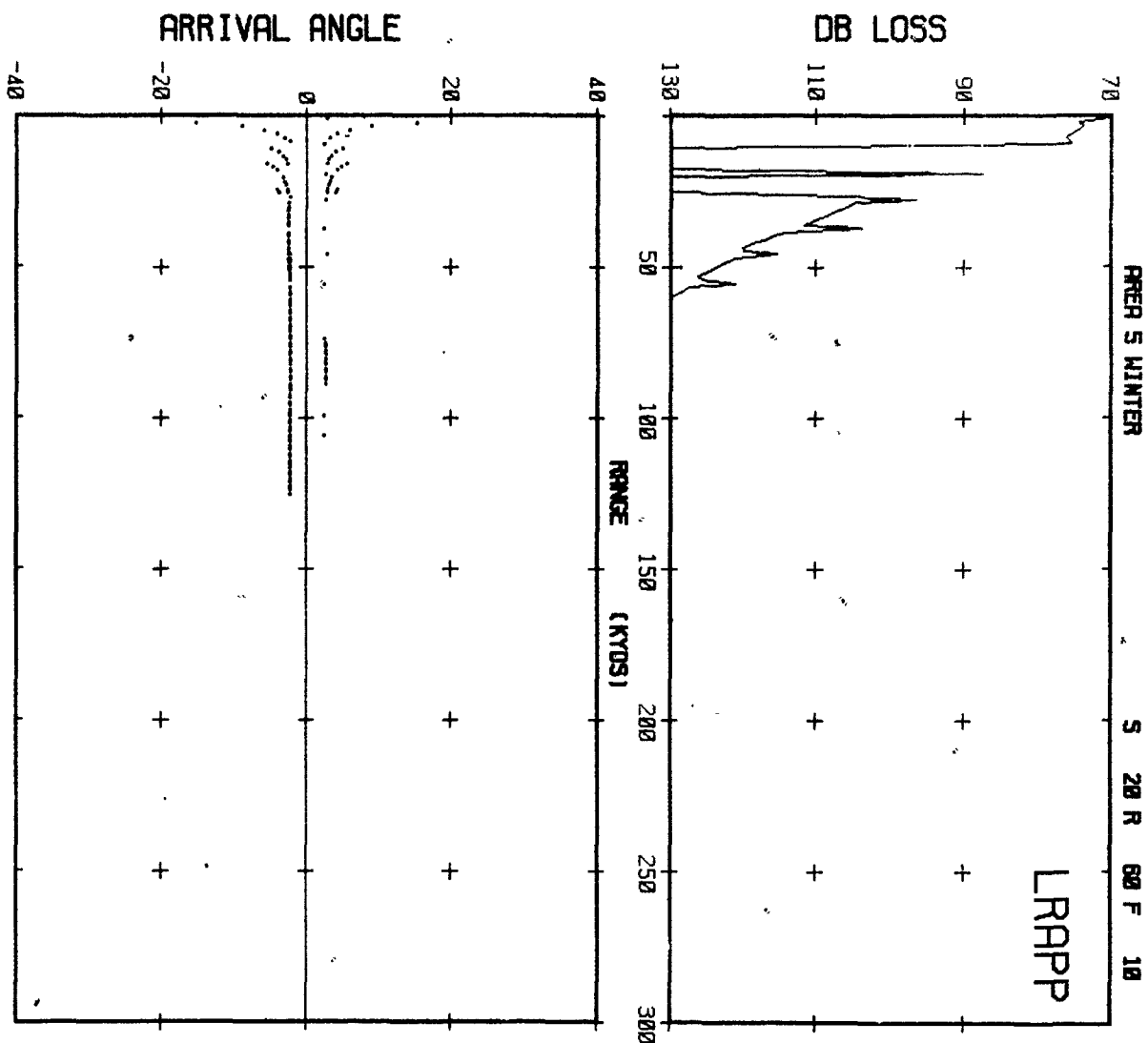
Refer to Volume I of this report for an explanation of the plot format and descriptions of models and ocean areas.

404 409

cut



**SOUND SPEED PROFILE
AREA 5, WINTER**

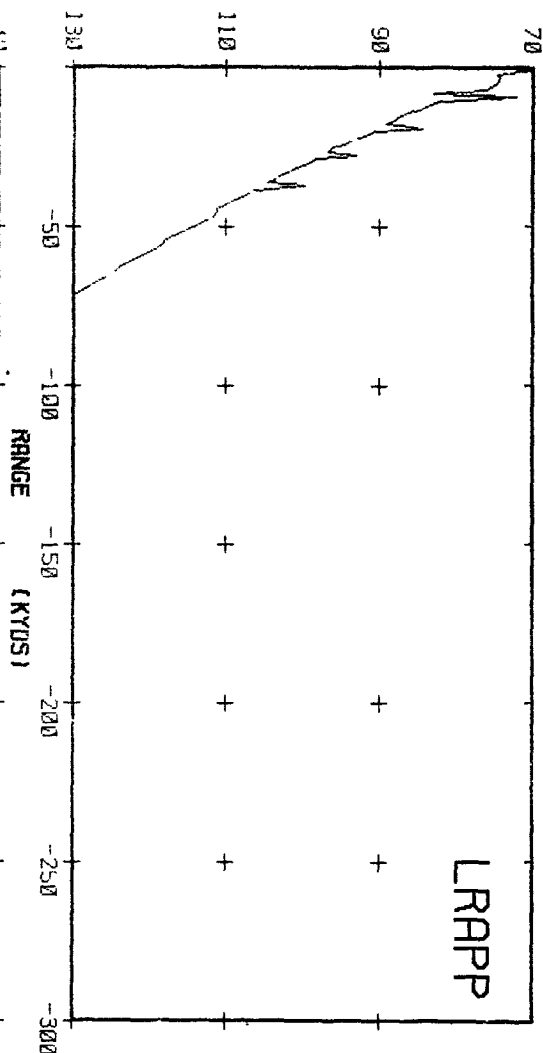


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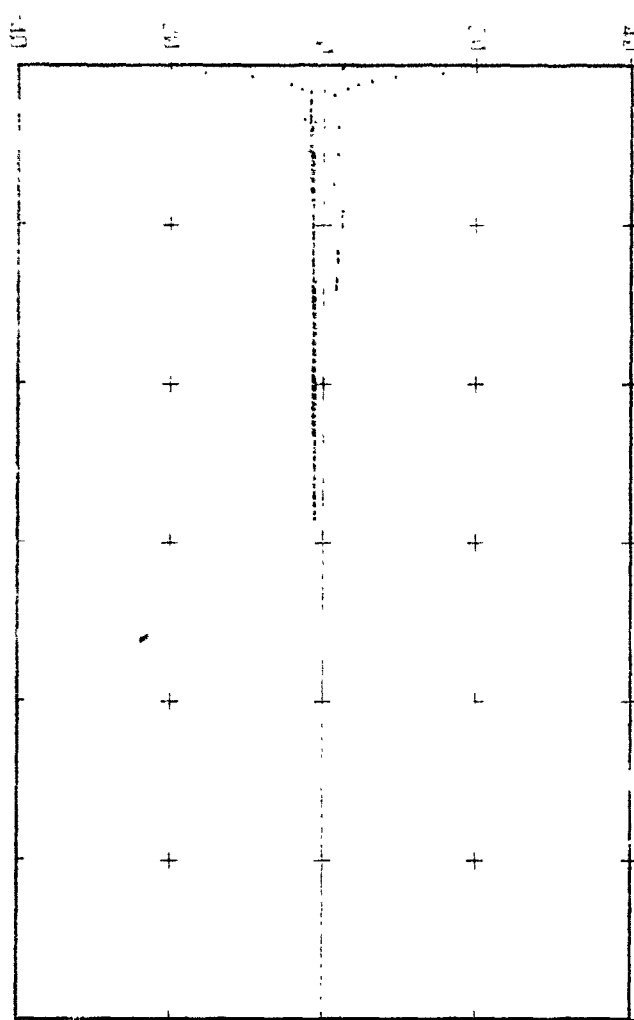
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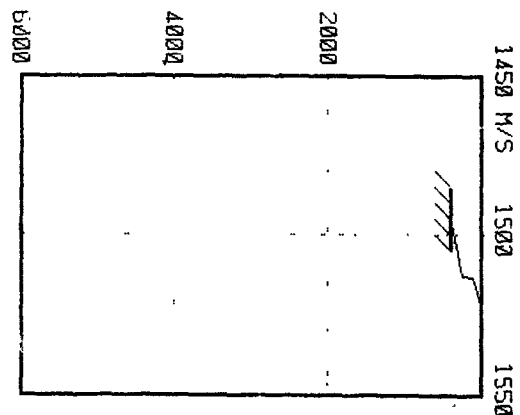
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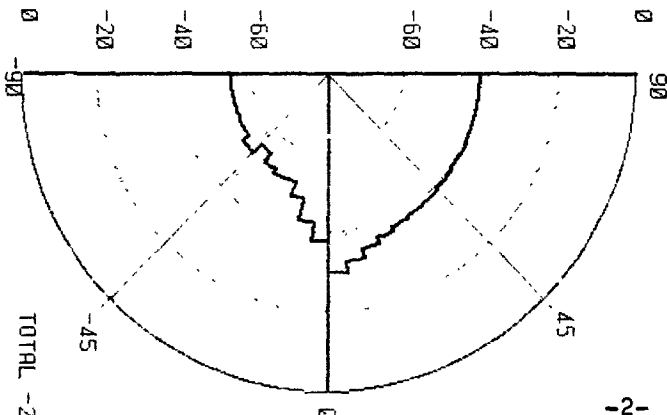
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



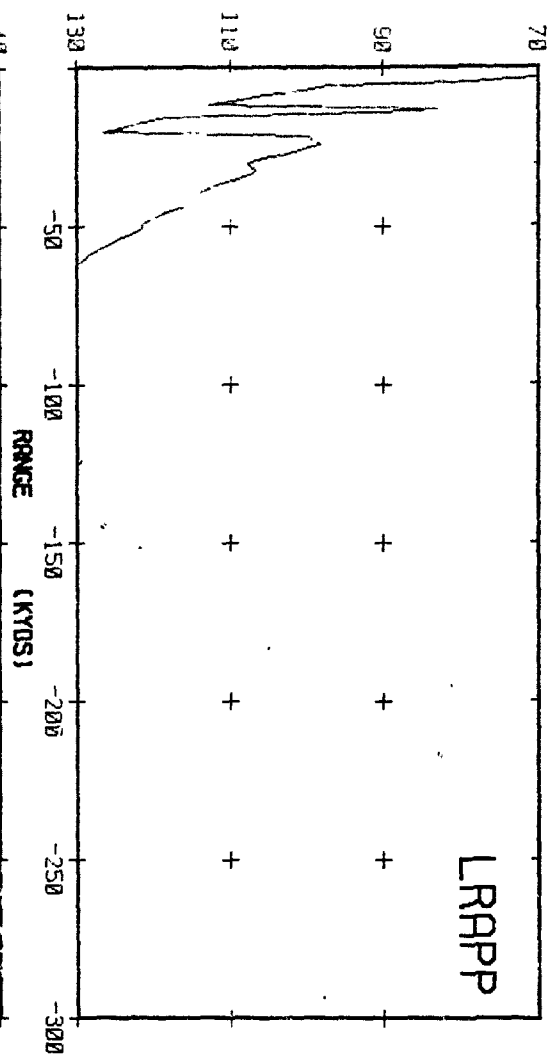
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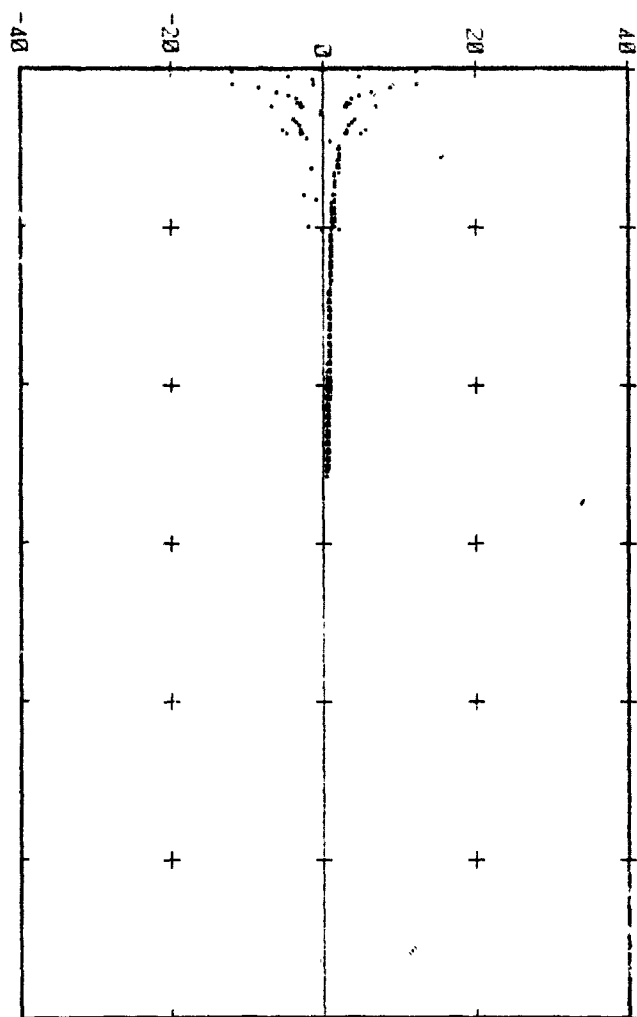
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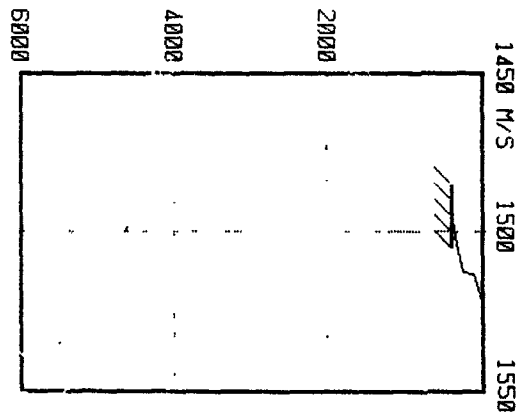
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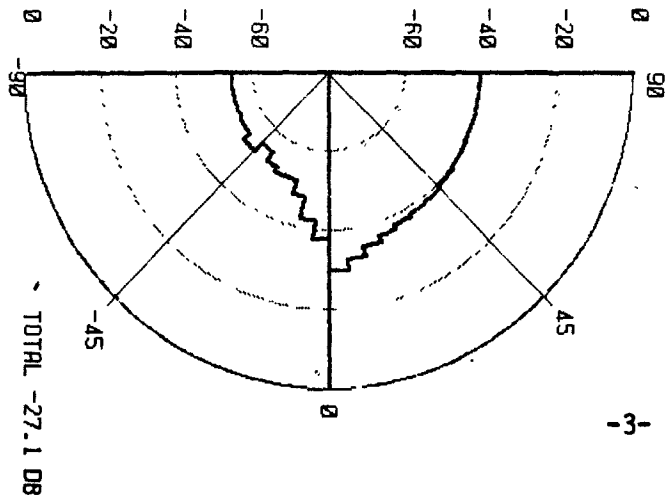
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DEPTH IN METERS



NOISE (DB)



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2

3

4

5

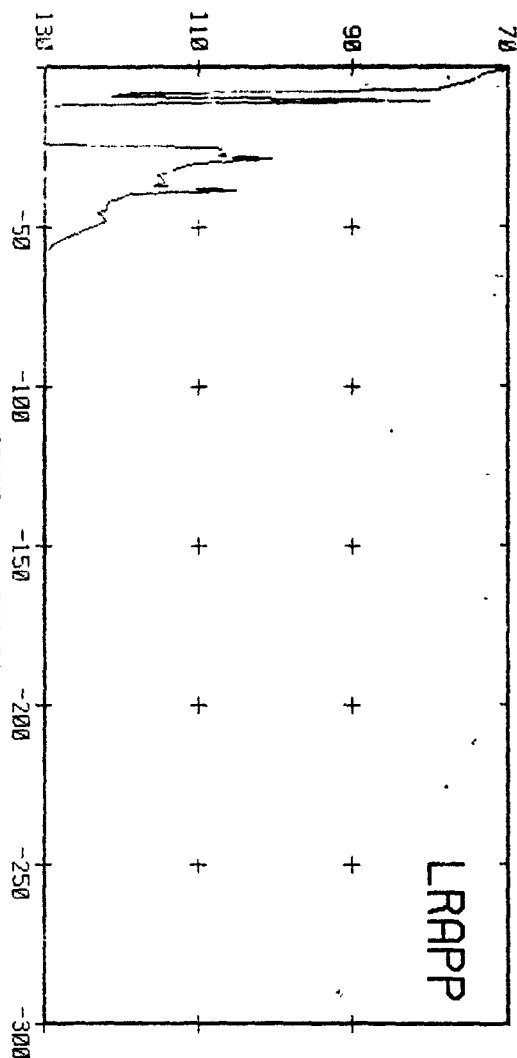
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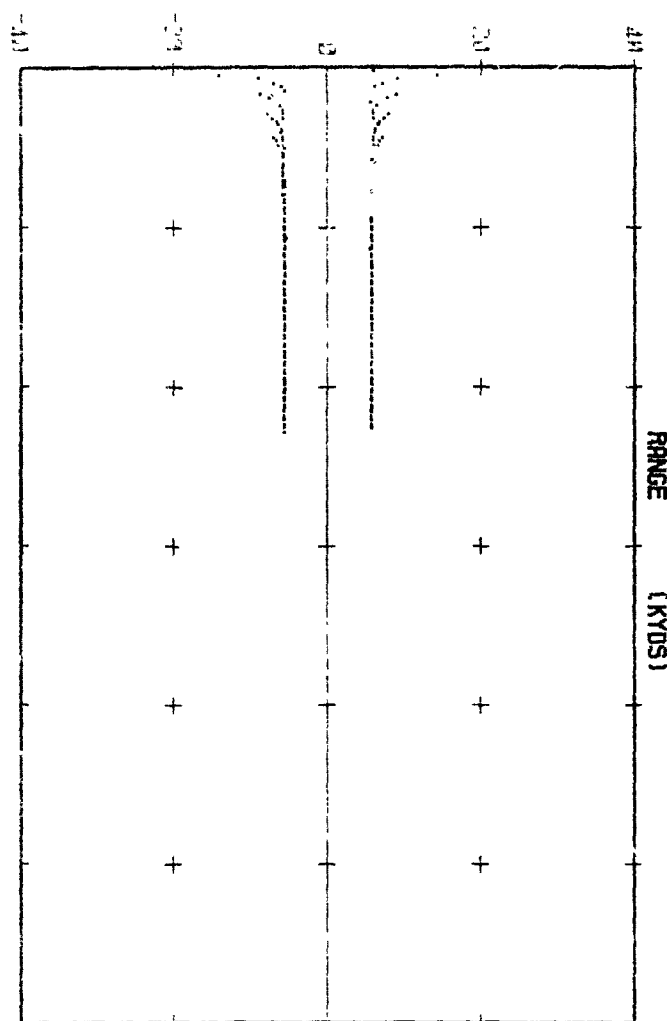
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1450 N/S 1500 1550

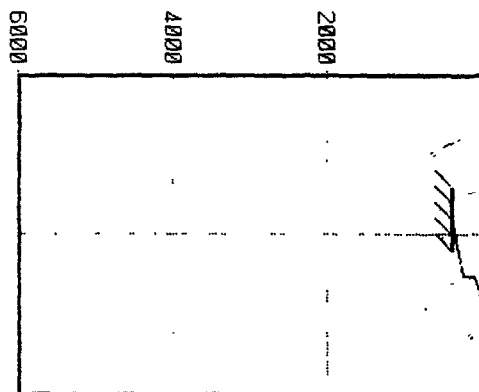
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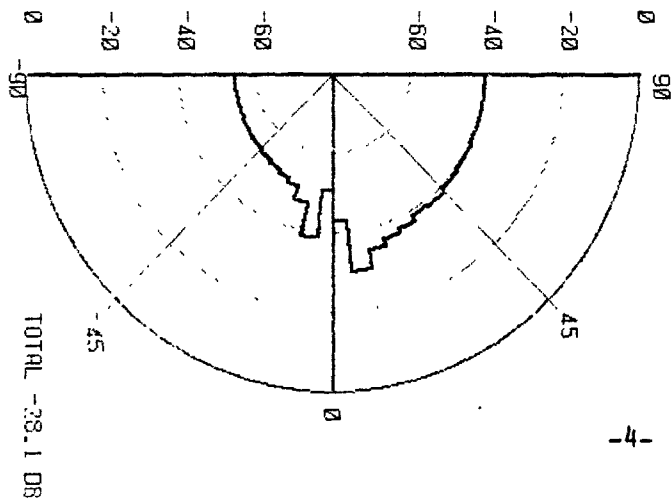
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DEPTH IN METERS



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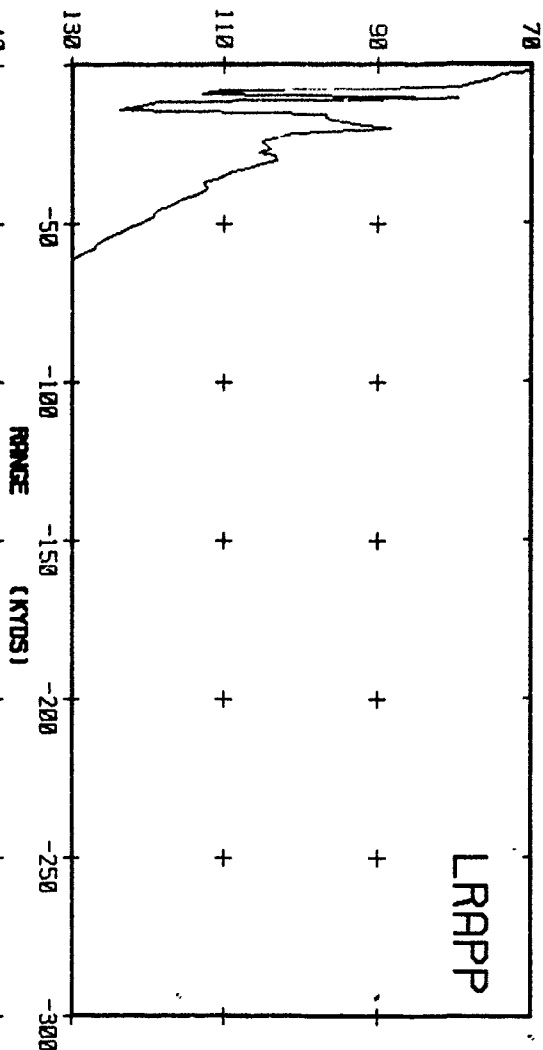


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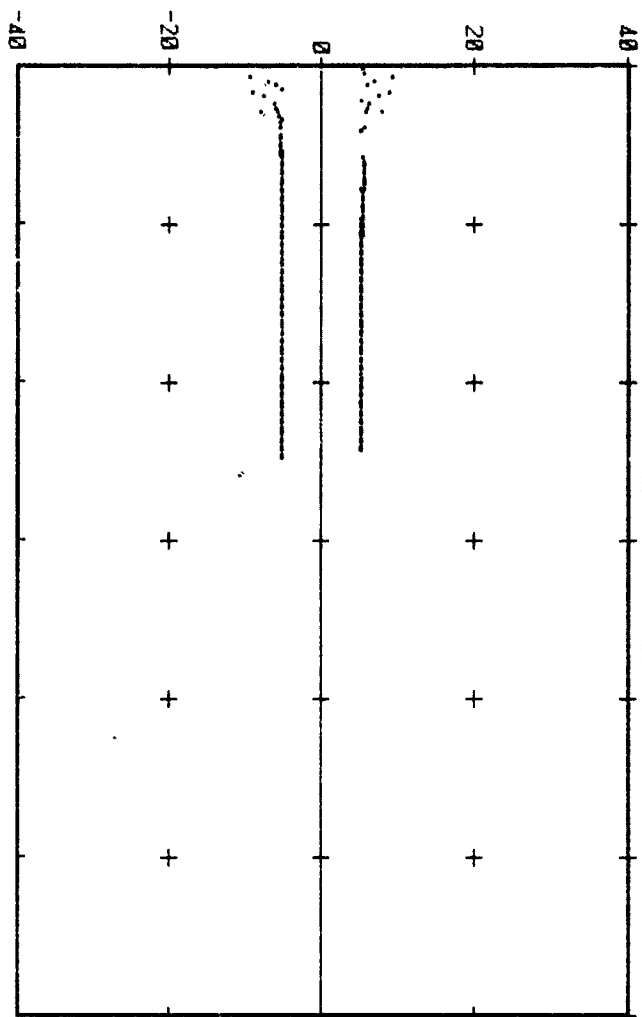
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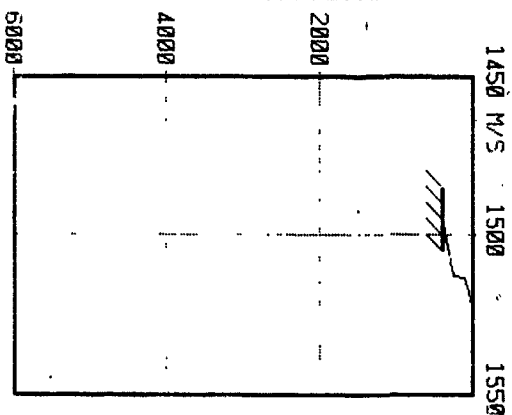
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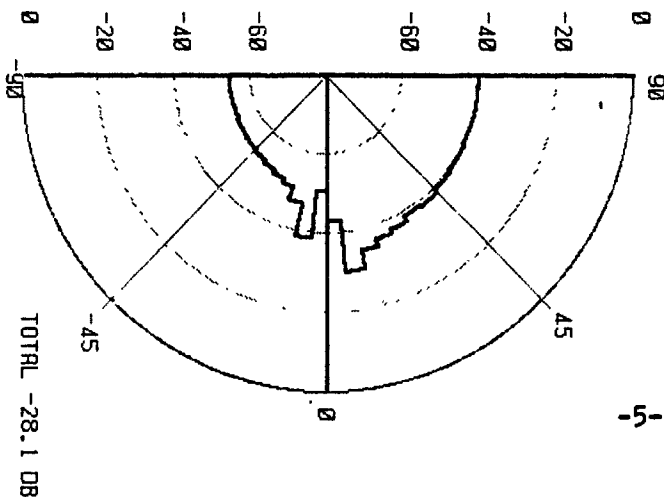
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

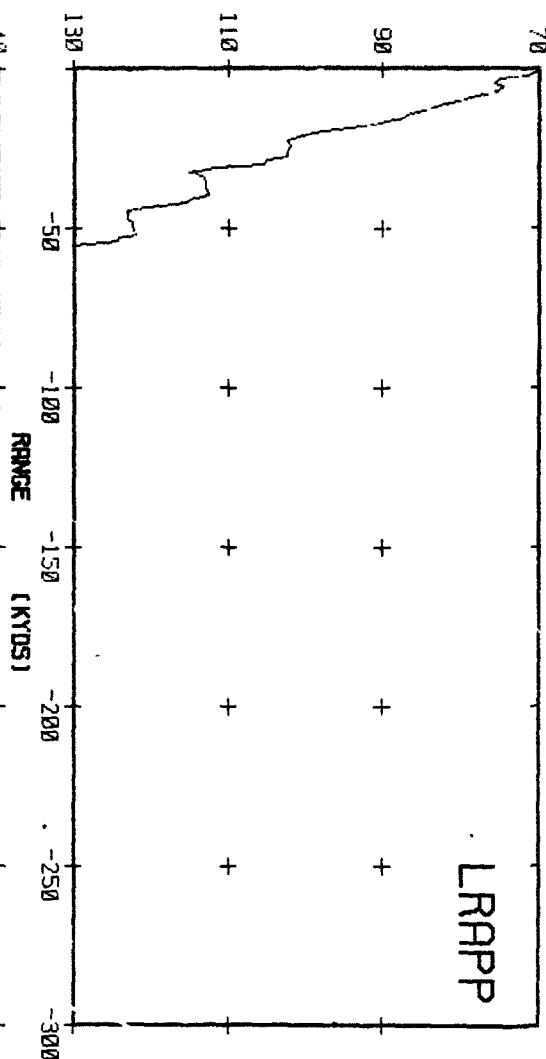


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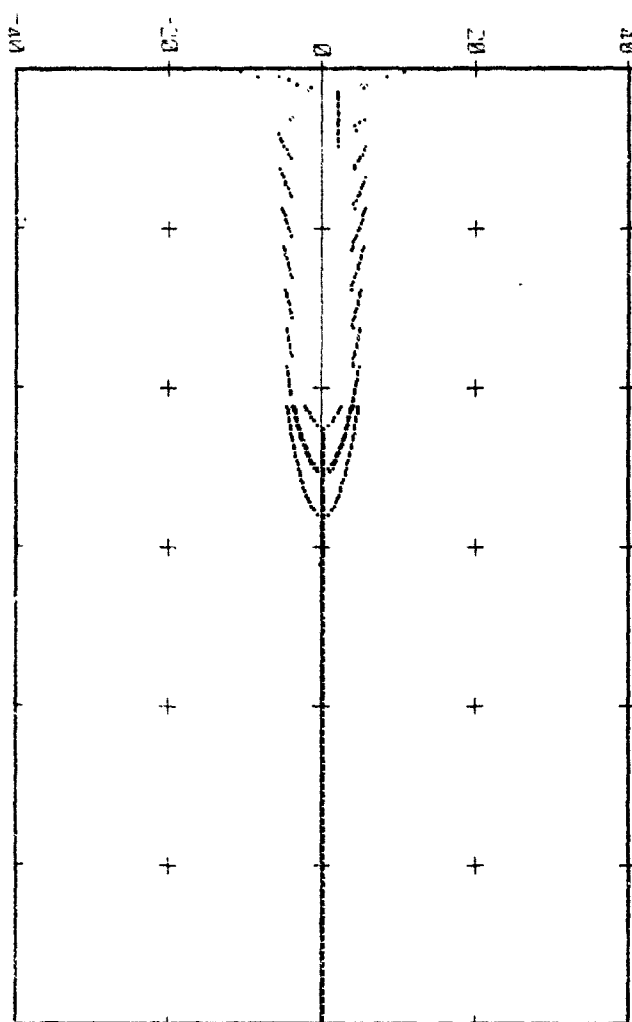
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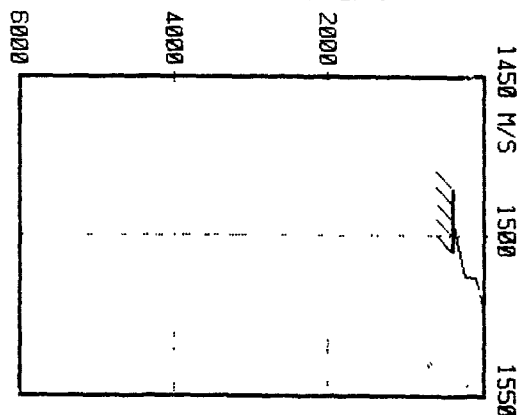
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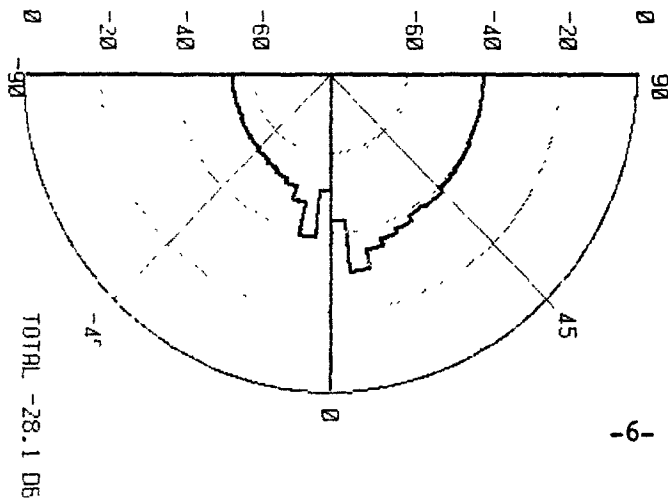
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DEPTH IN METERS



NOISE (DB)

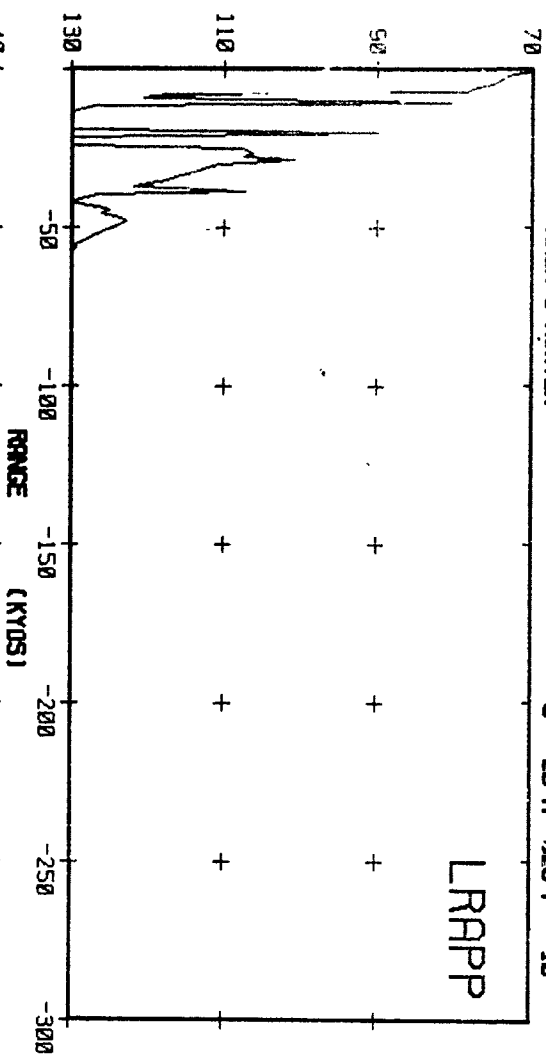


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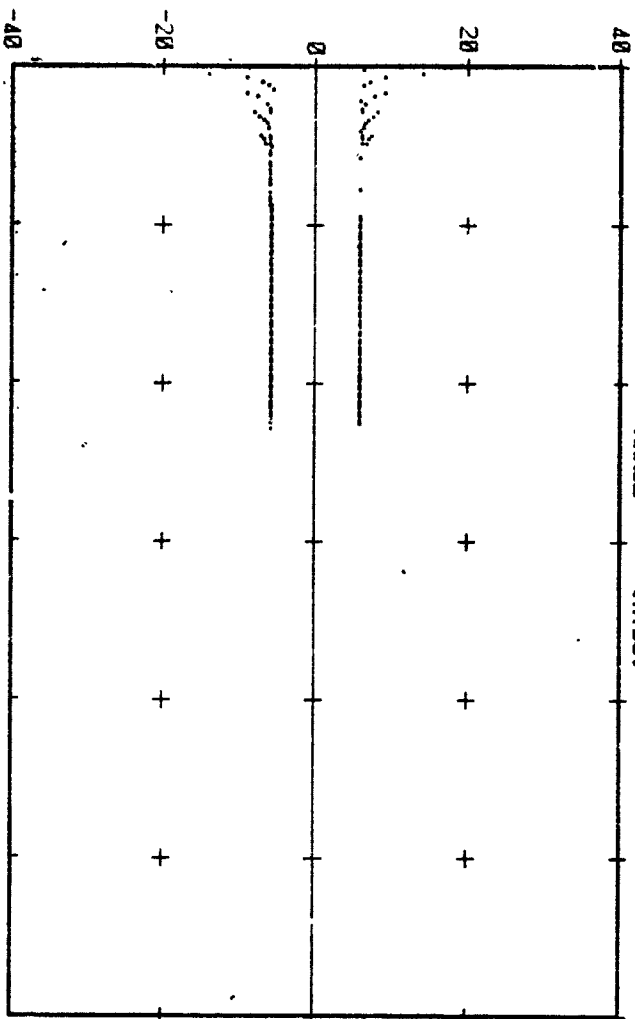
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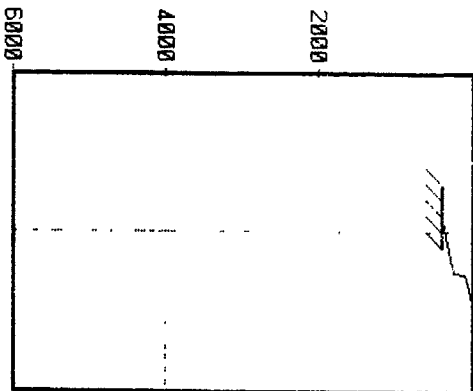
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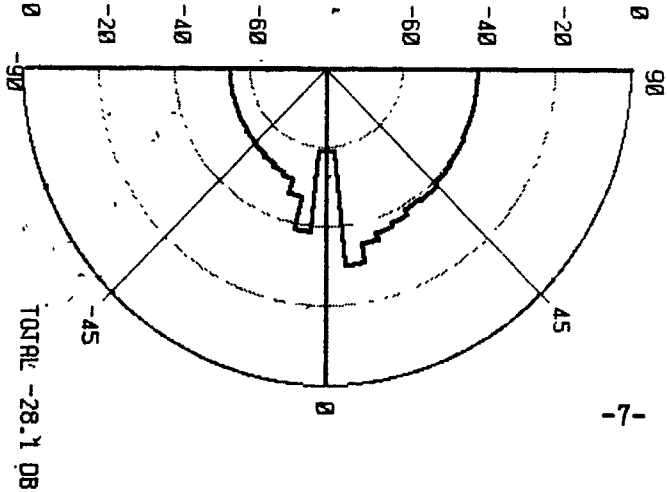
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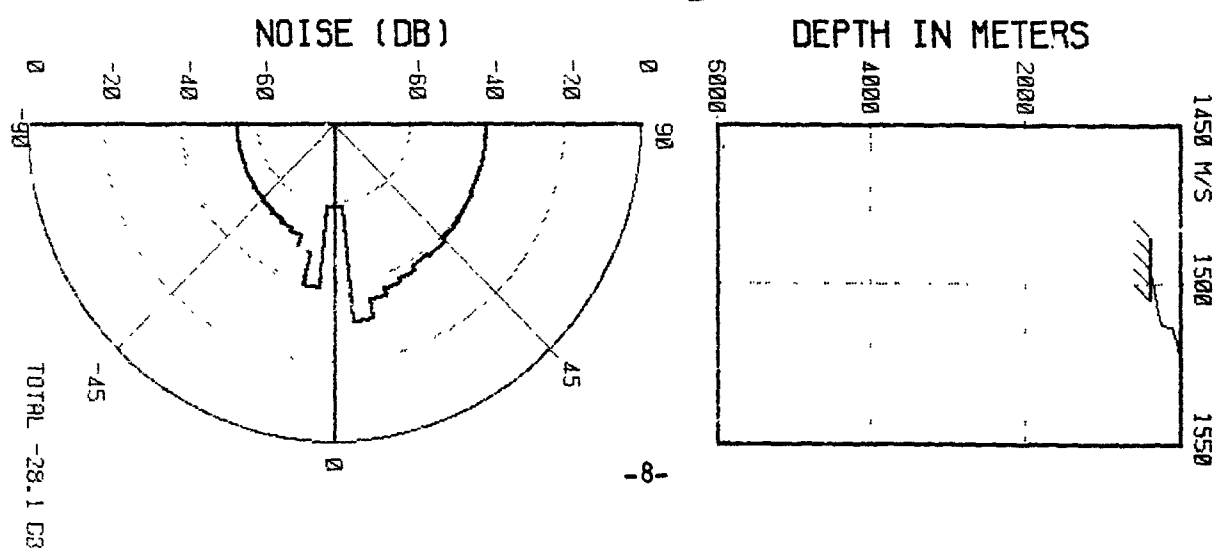
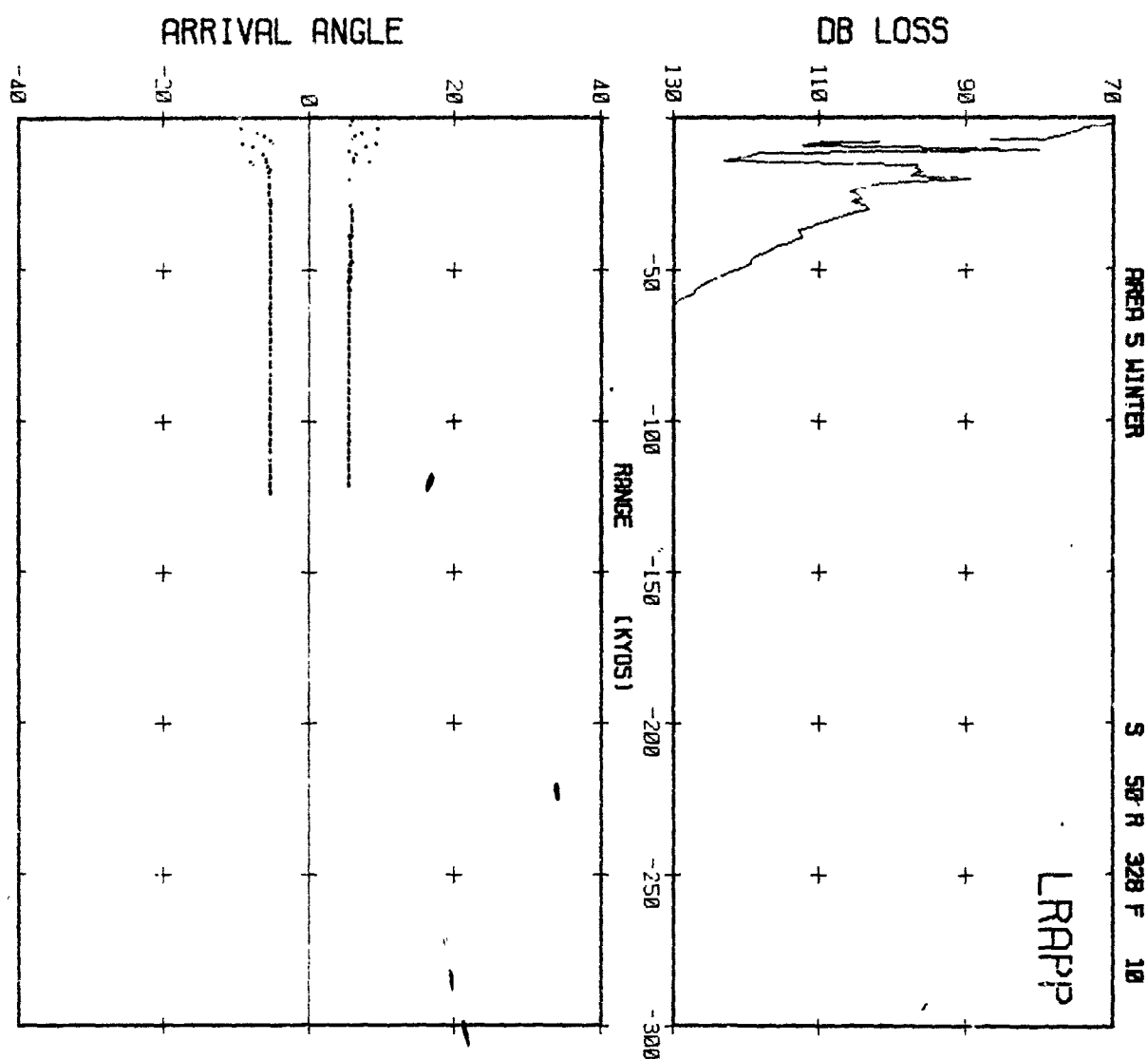


DEPTH IN METERS



NOISE (DB)



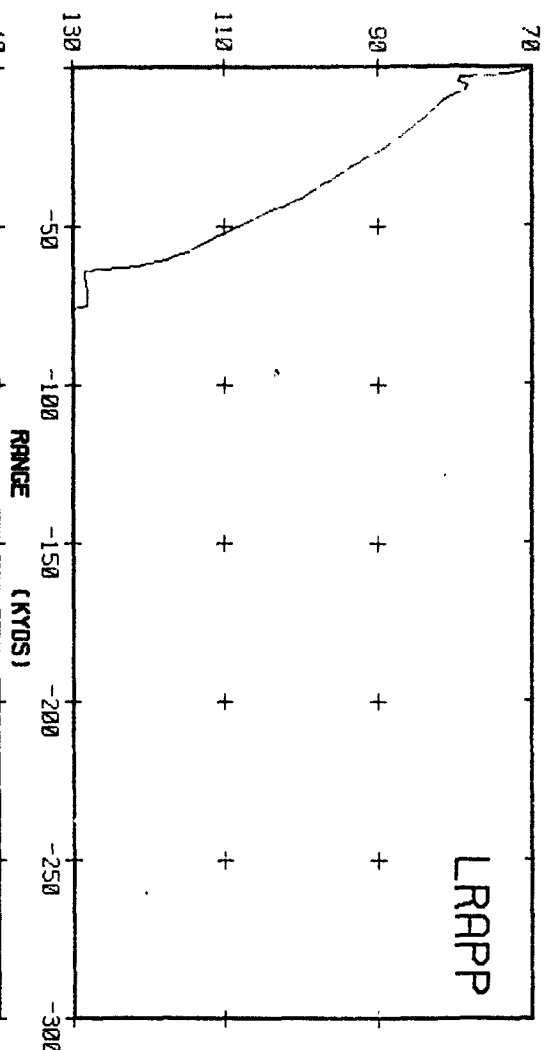


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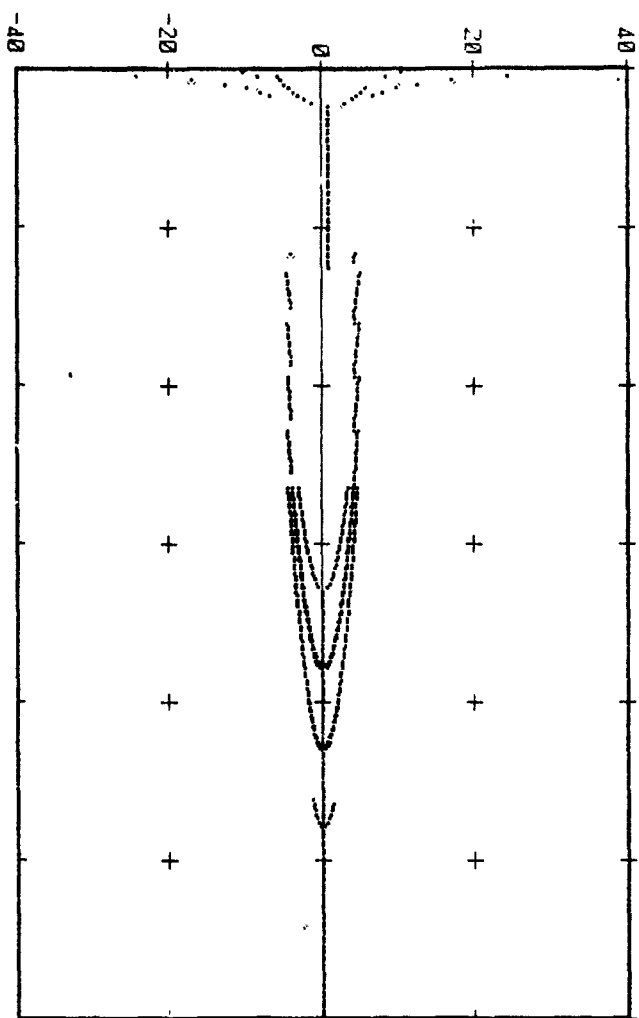
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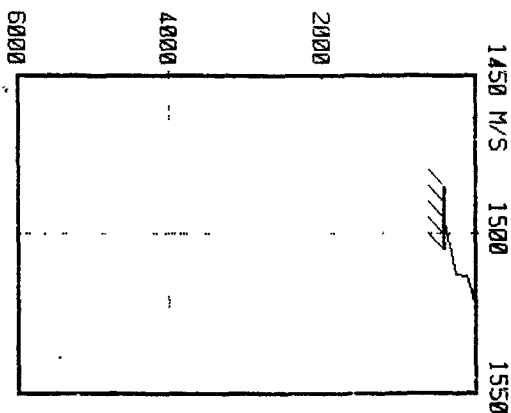
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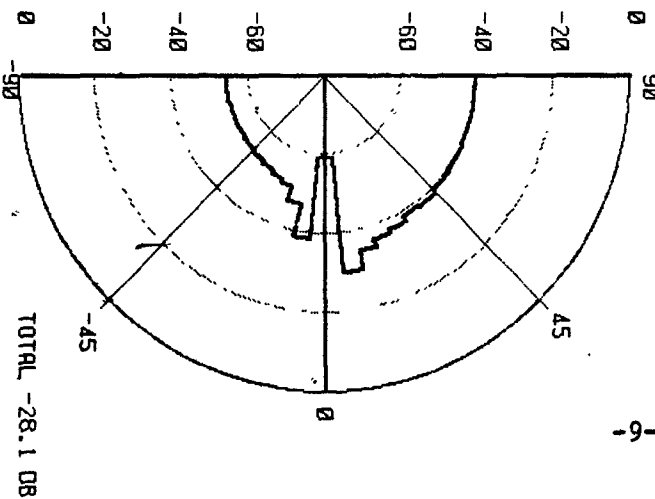
ARRIVAL ANGLE



DEPTH IN METERS

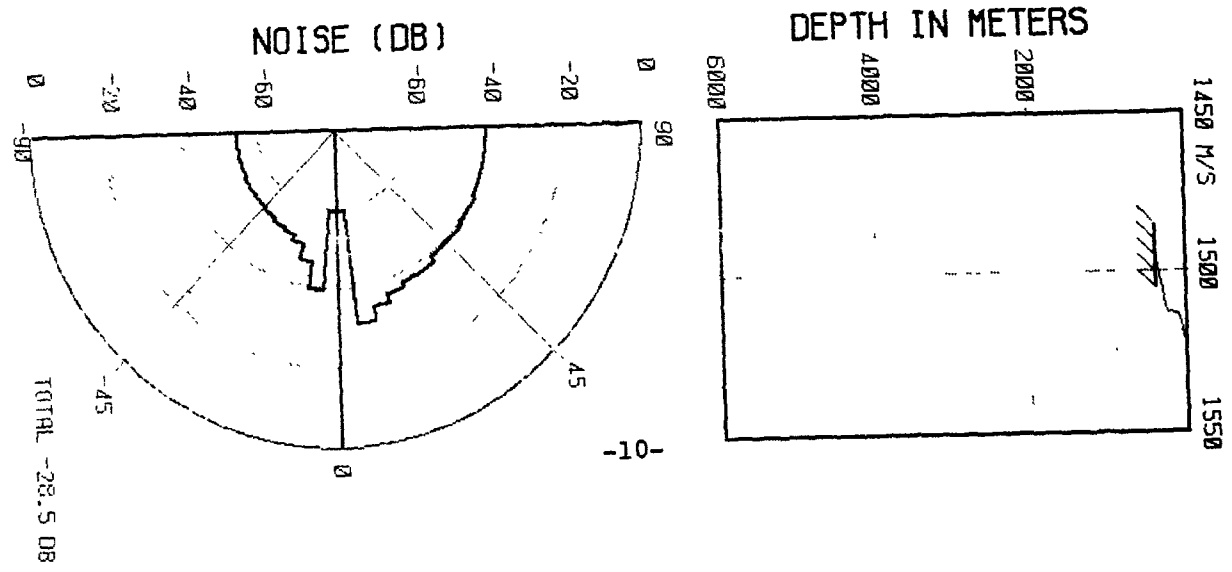
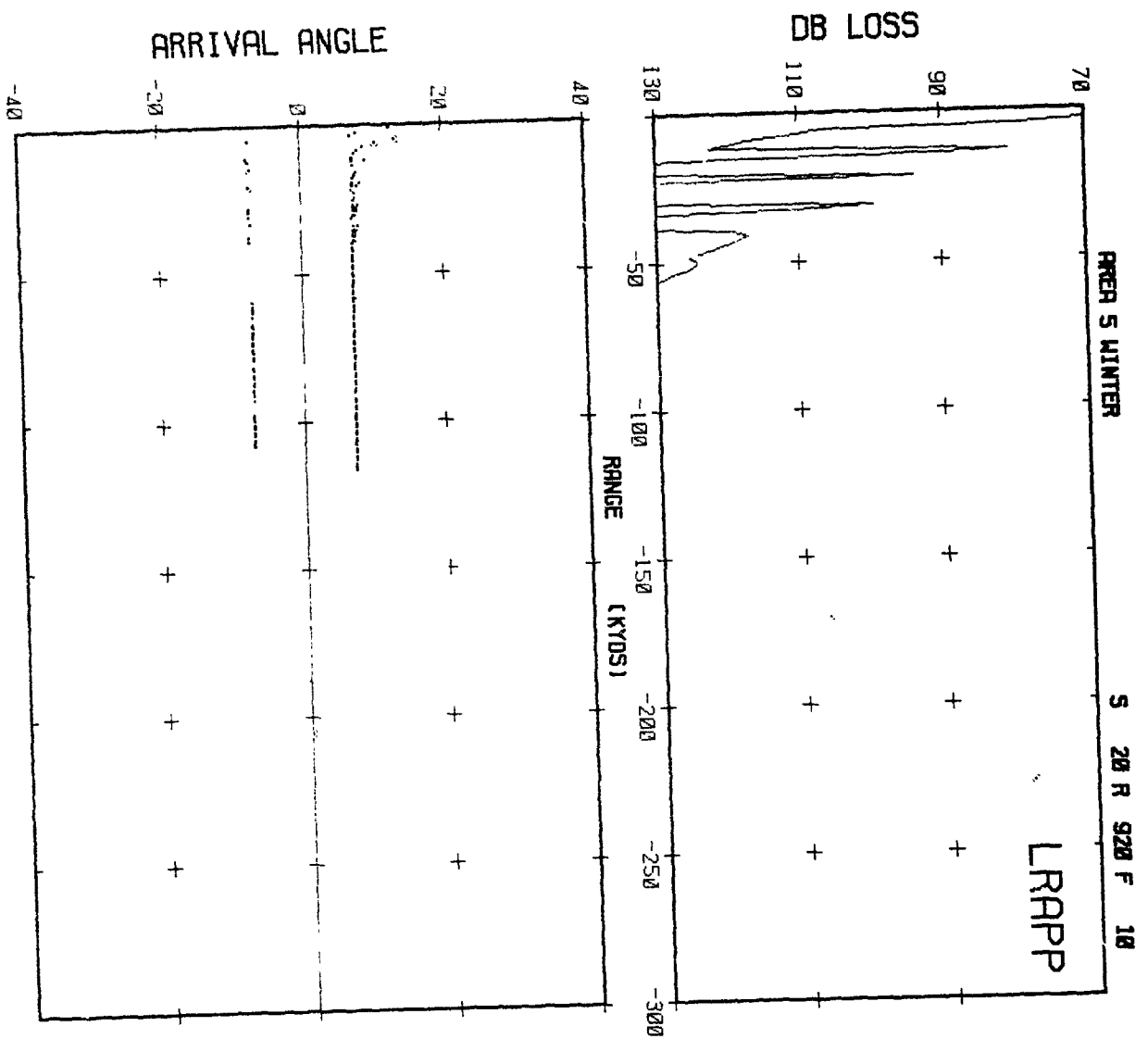


NOISE (DB)



TOTAL -28.1 DB

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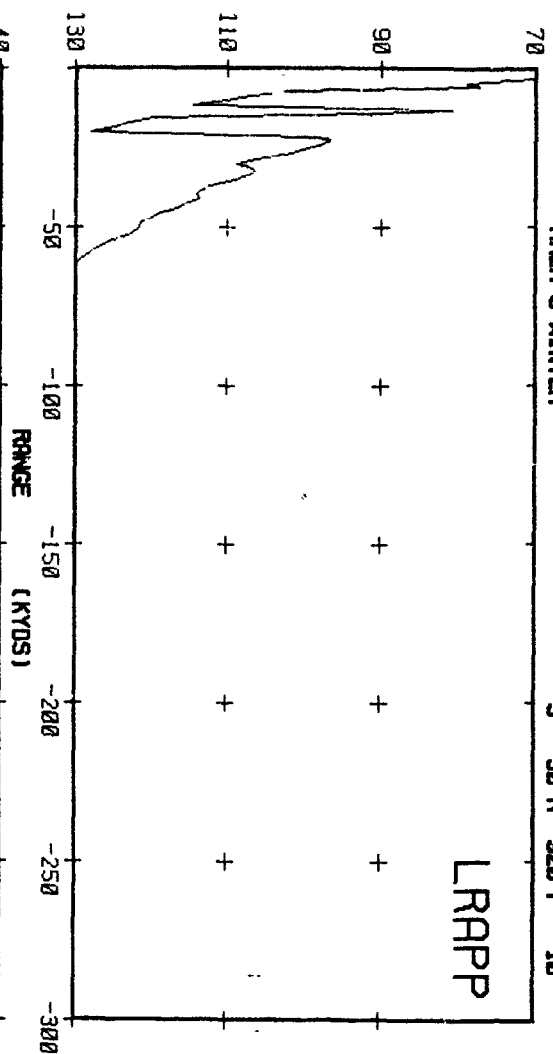


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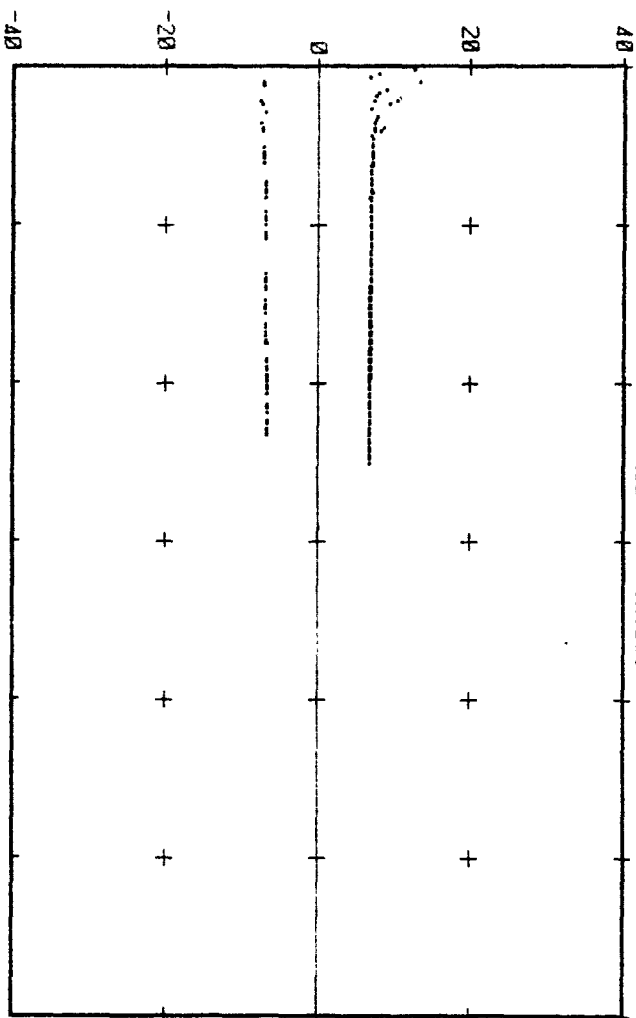
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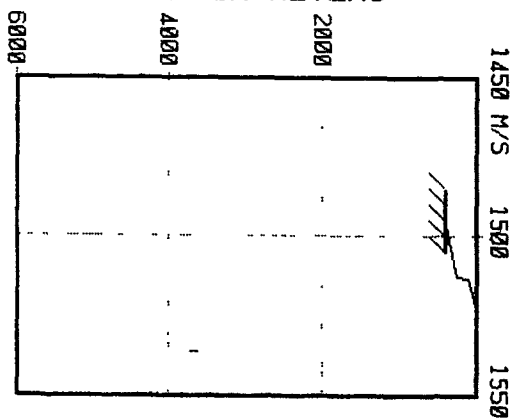
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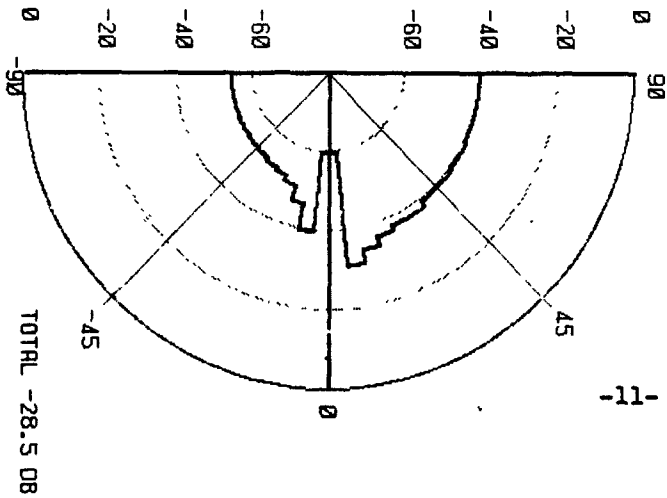
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



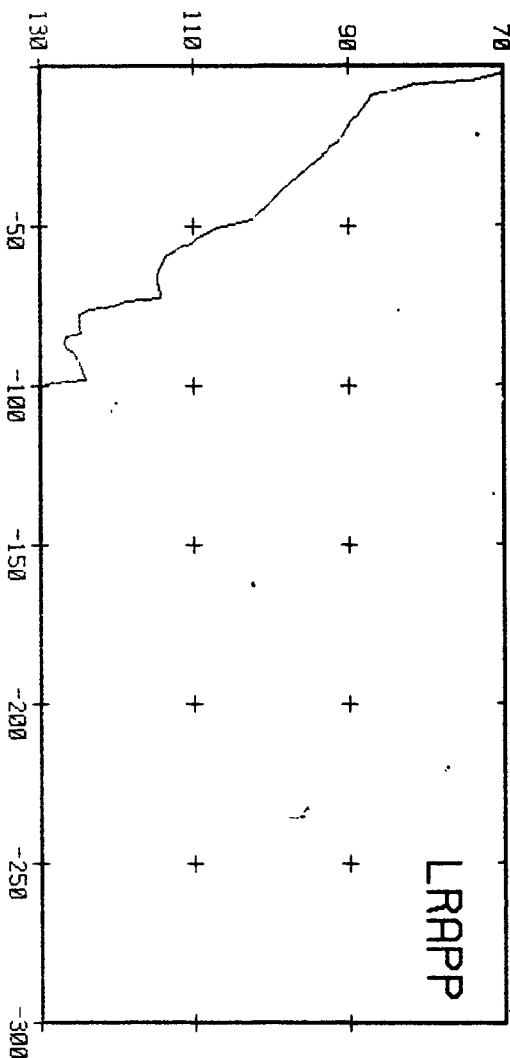
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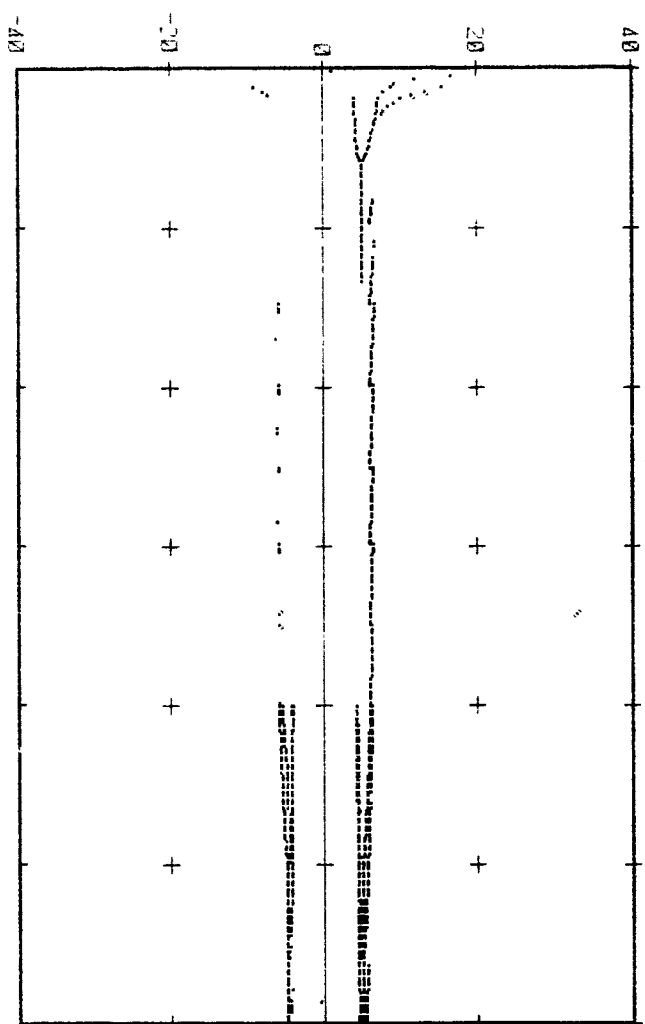
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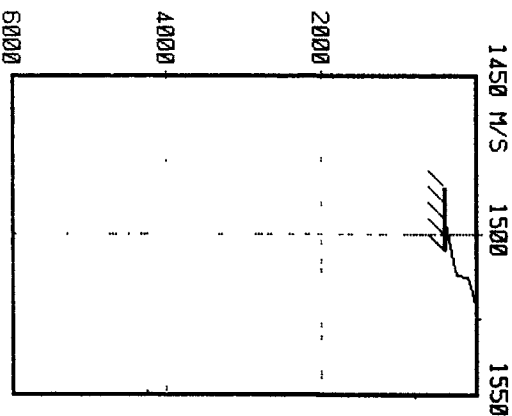
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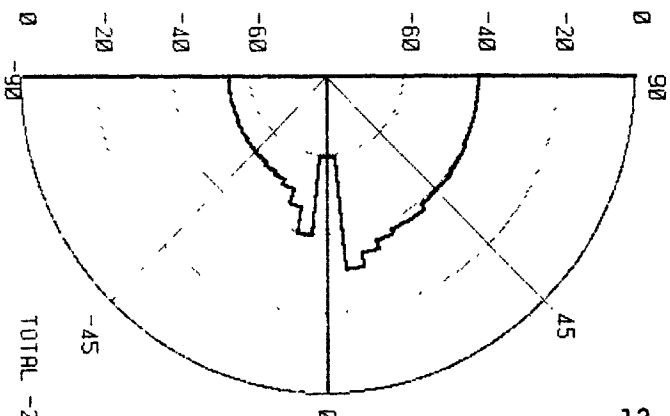
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



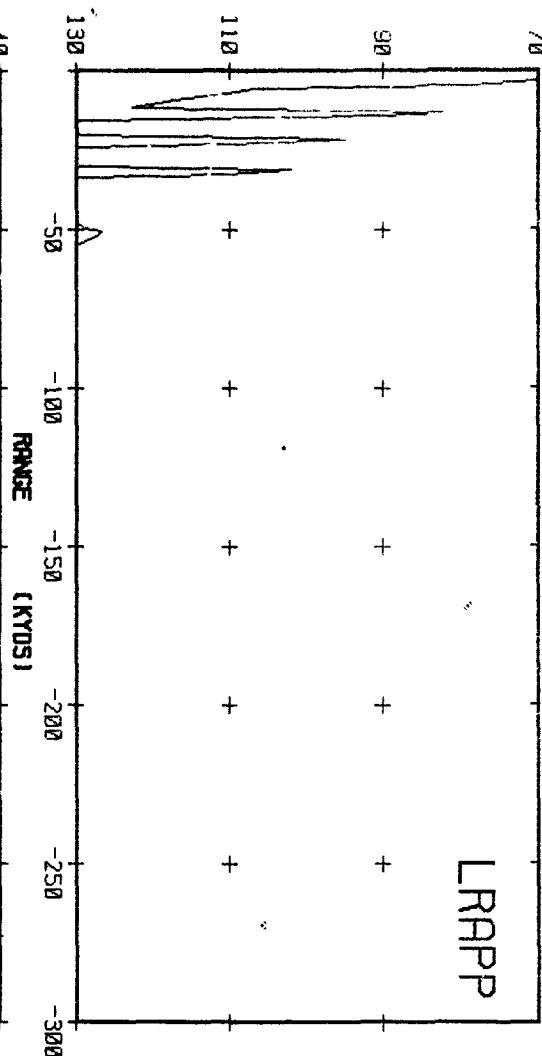
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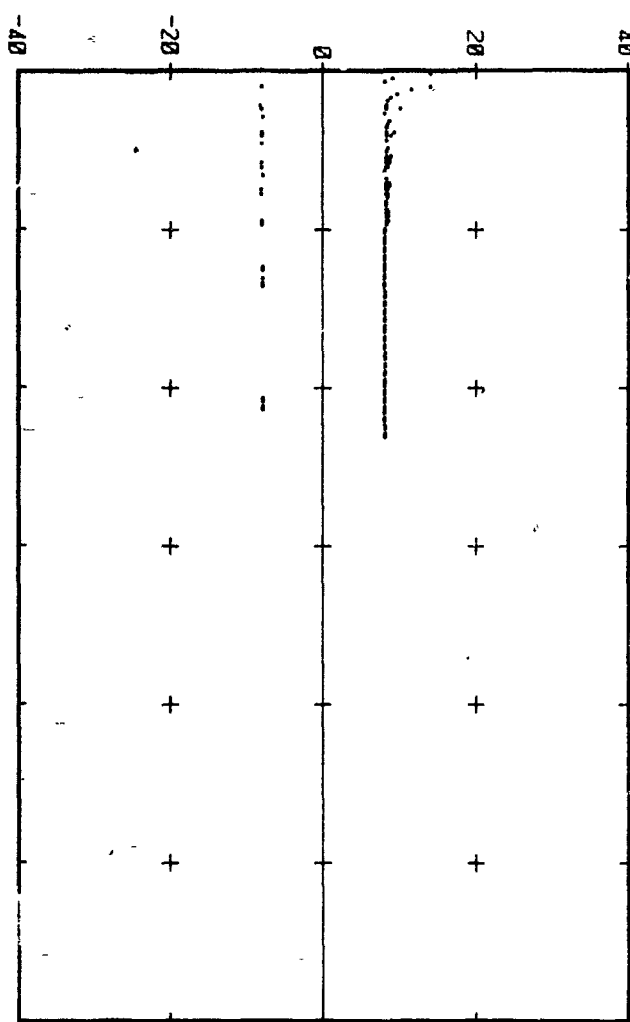
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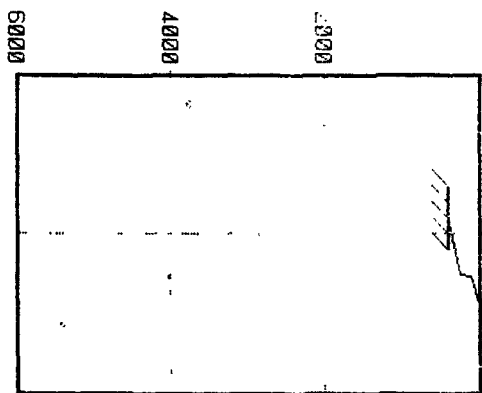
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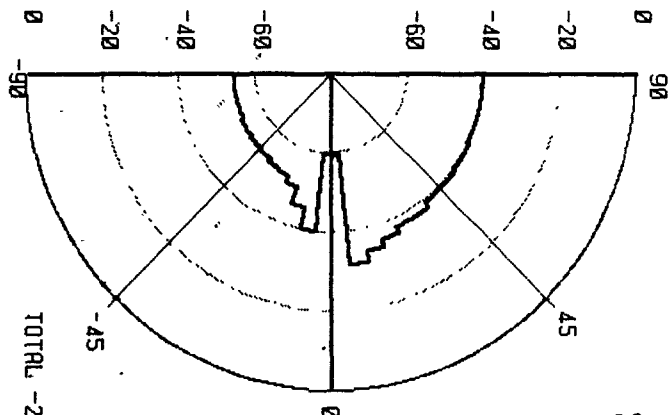
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



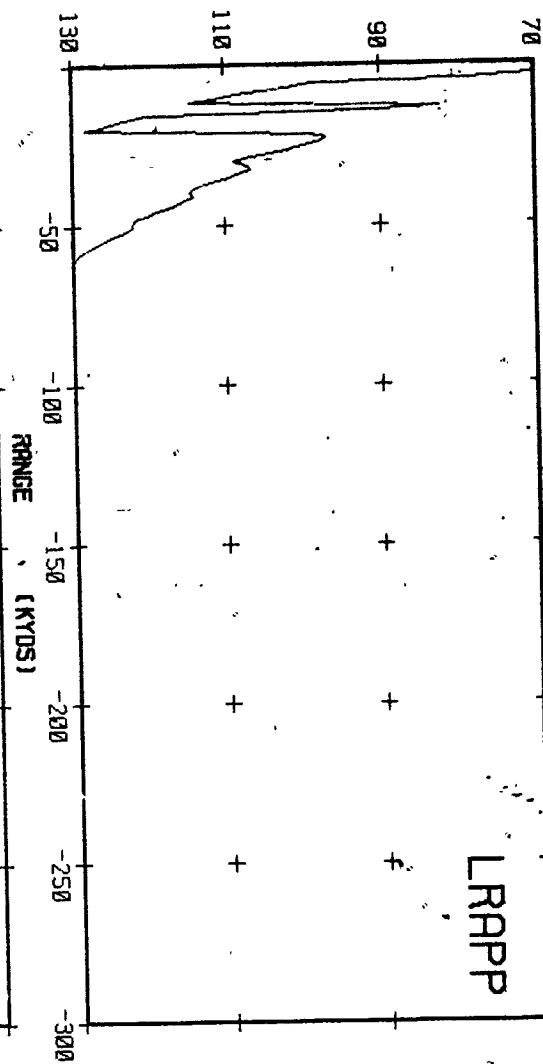
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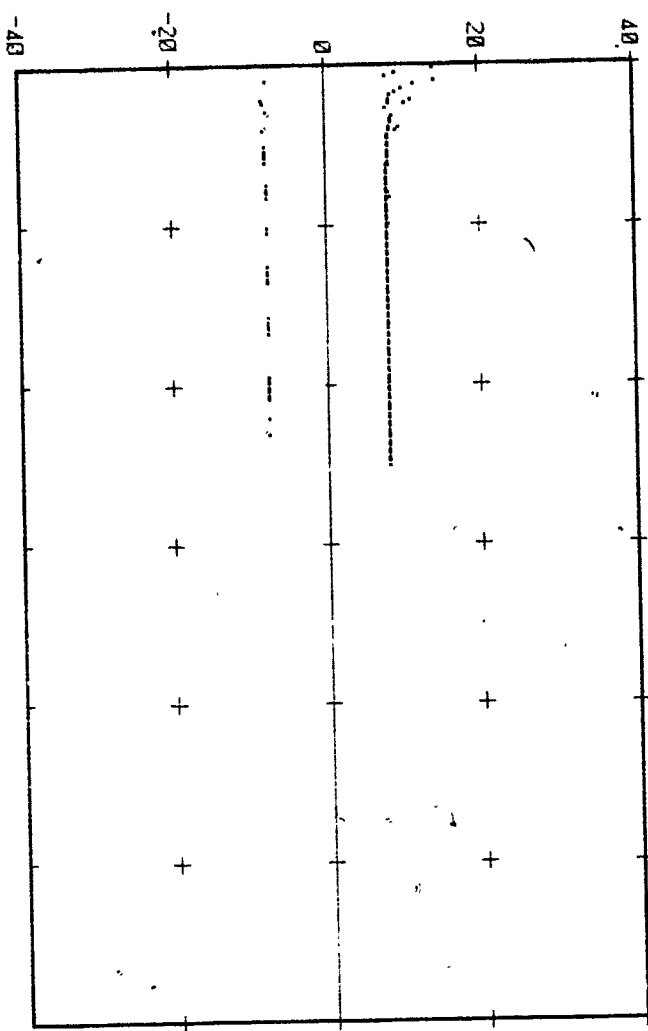
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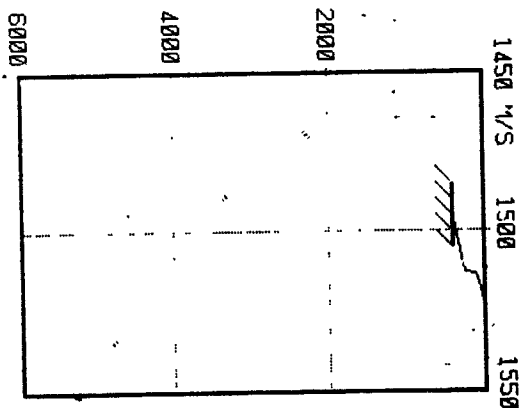
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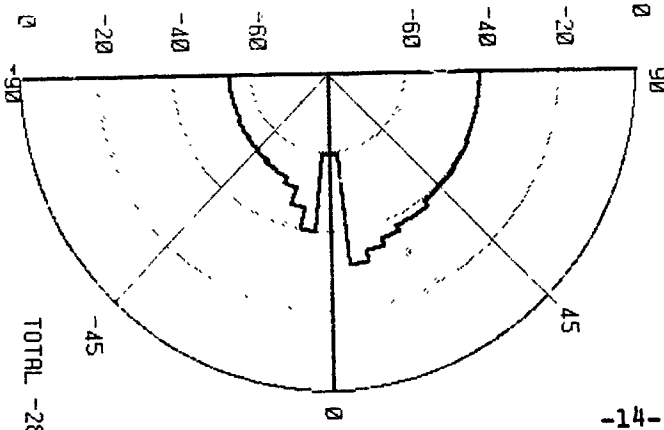
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



TOTAL -28.6 DB

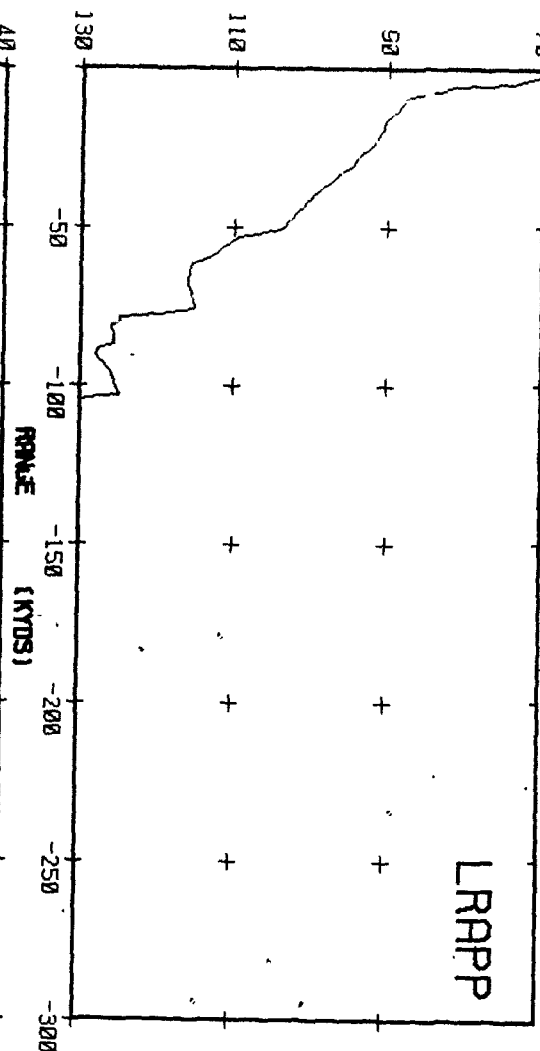
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RIVER S WINTER

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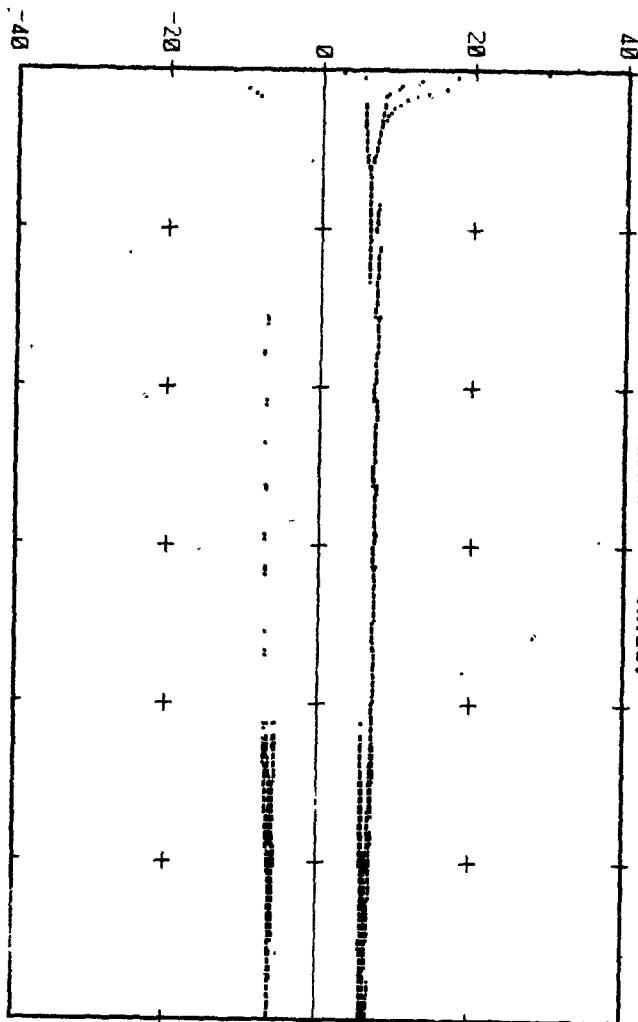
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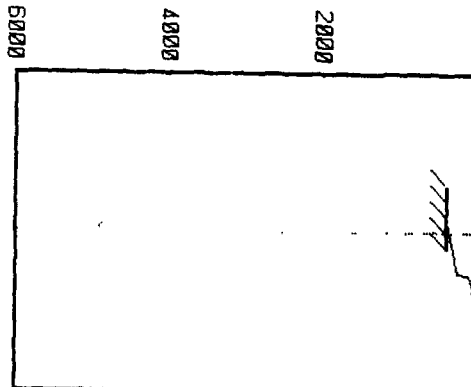
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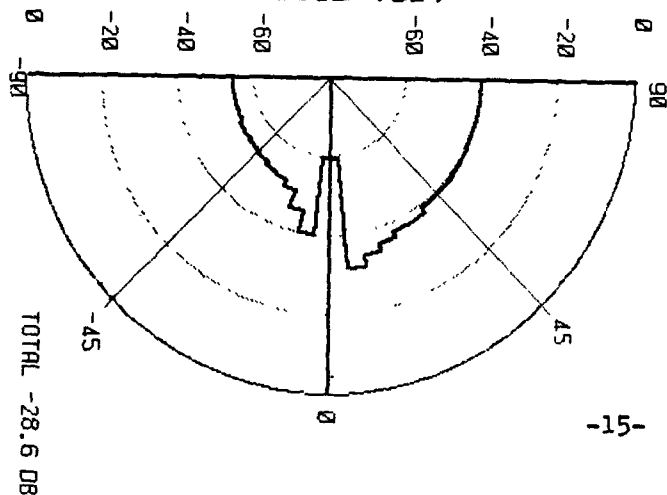
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



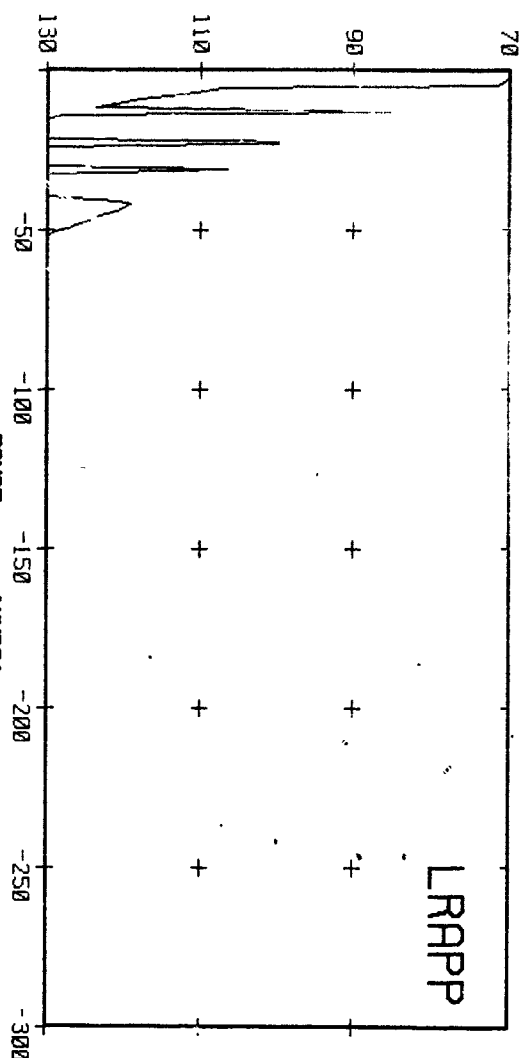
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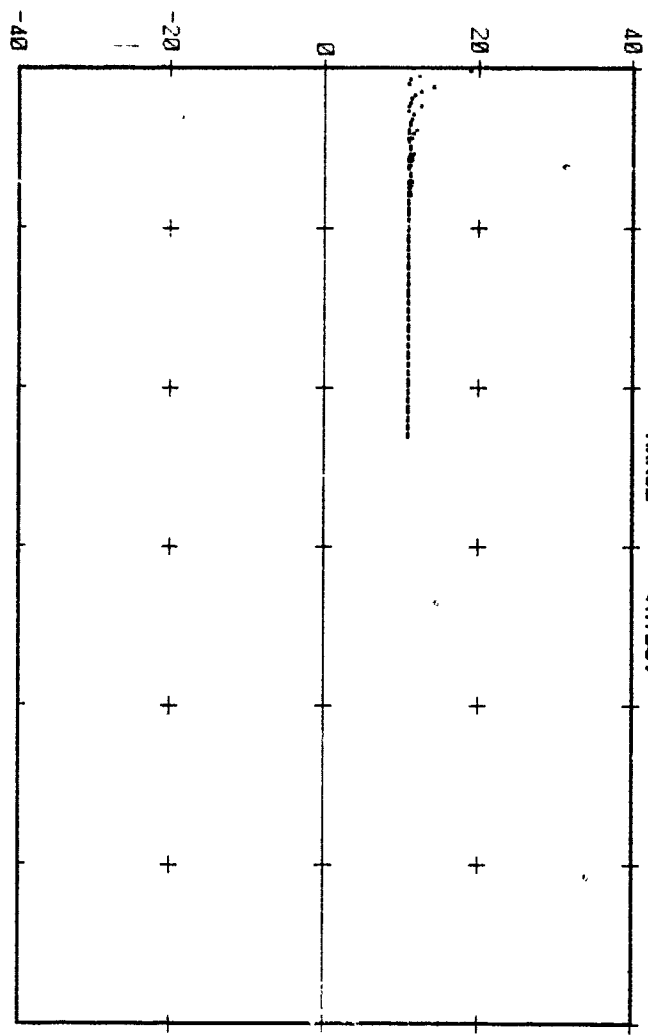
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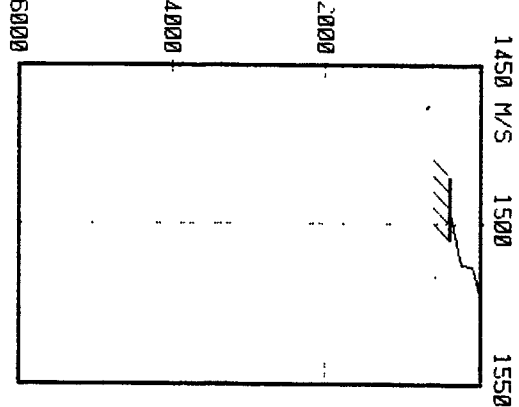
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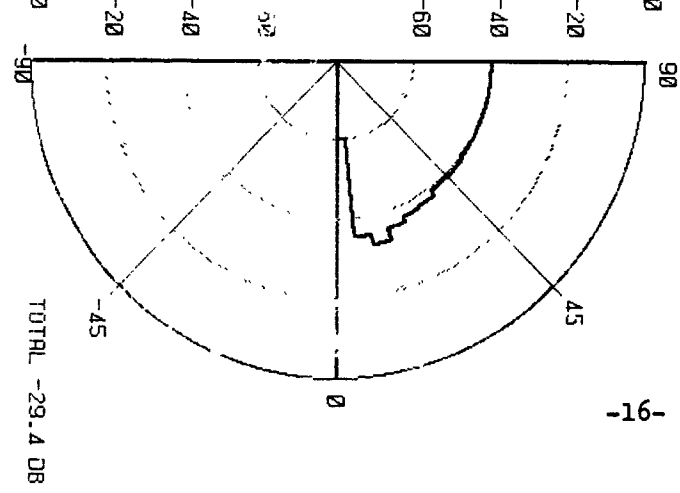
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

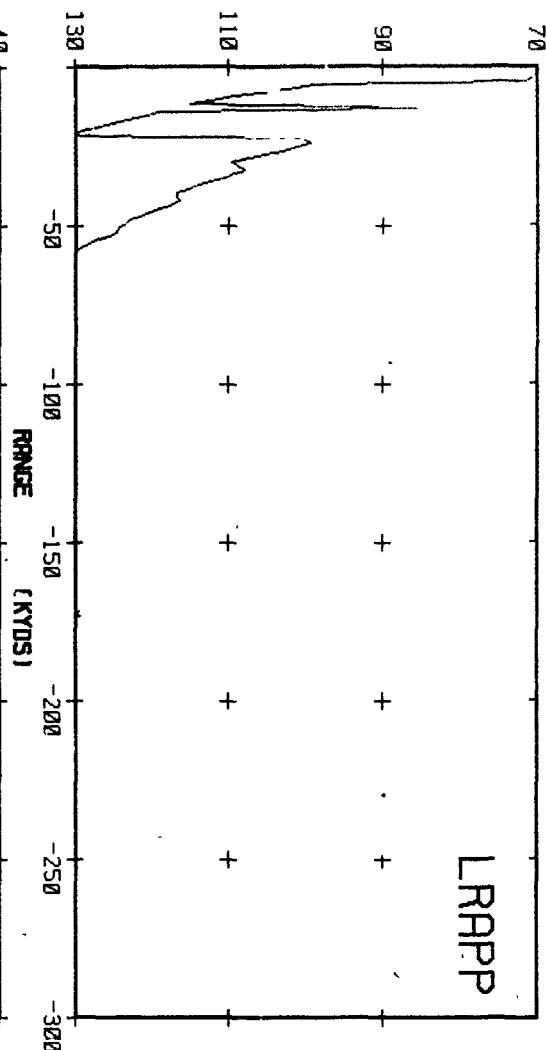


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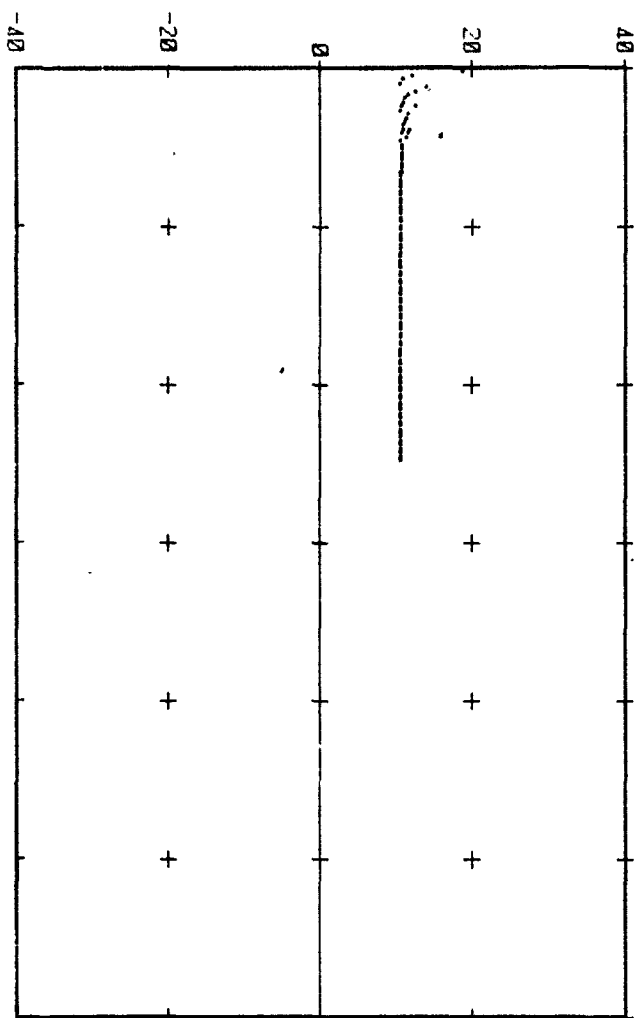
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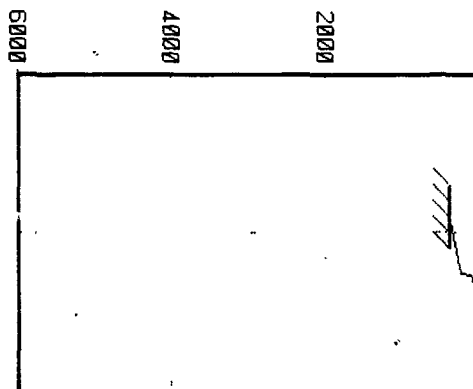
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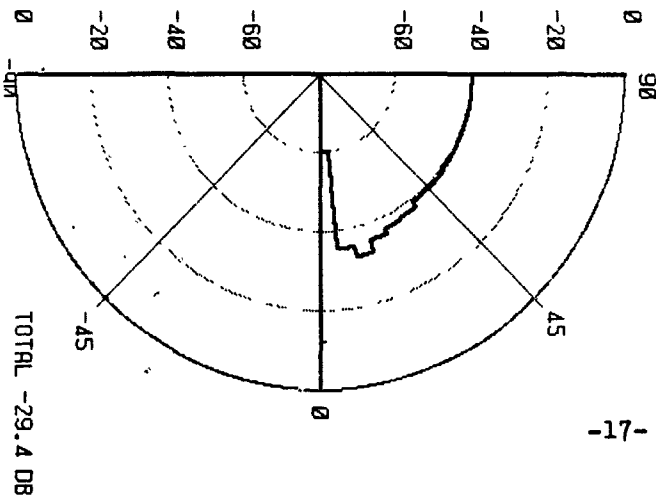
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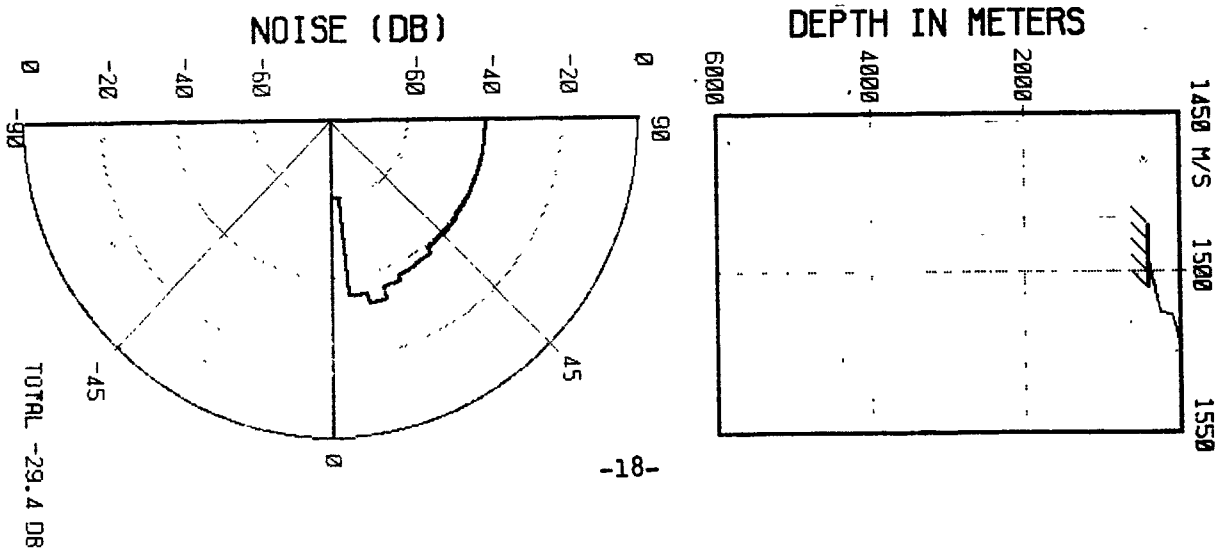
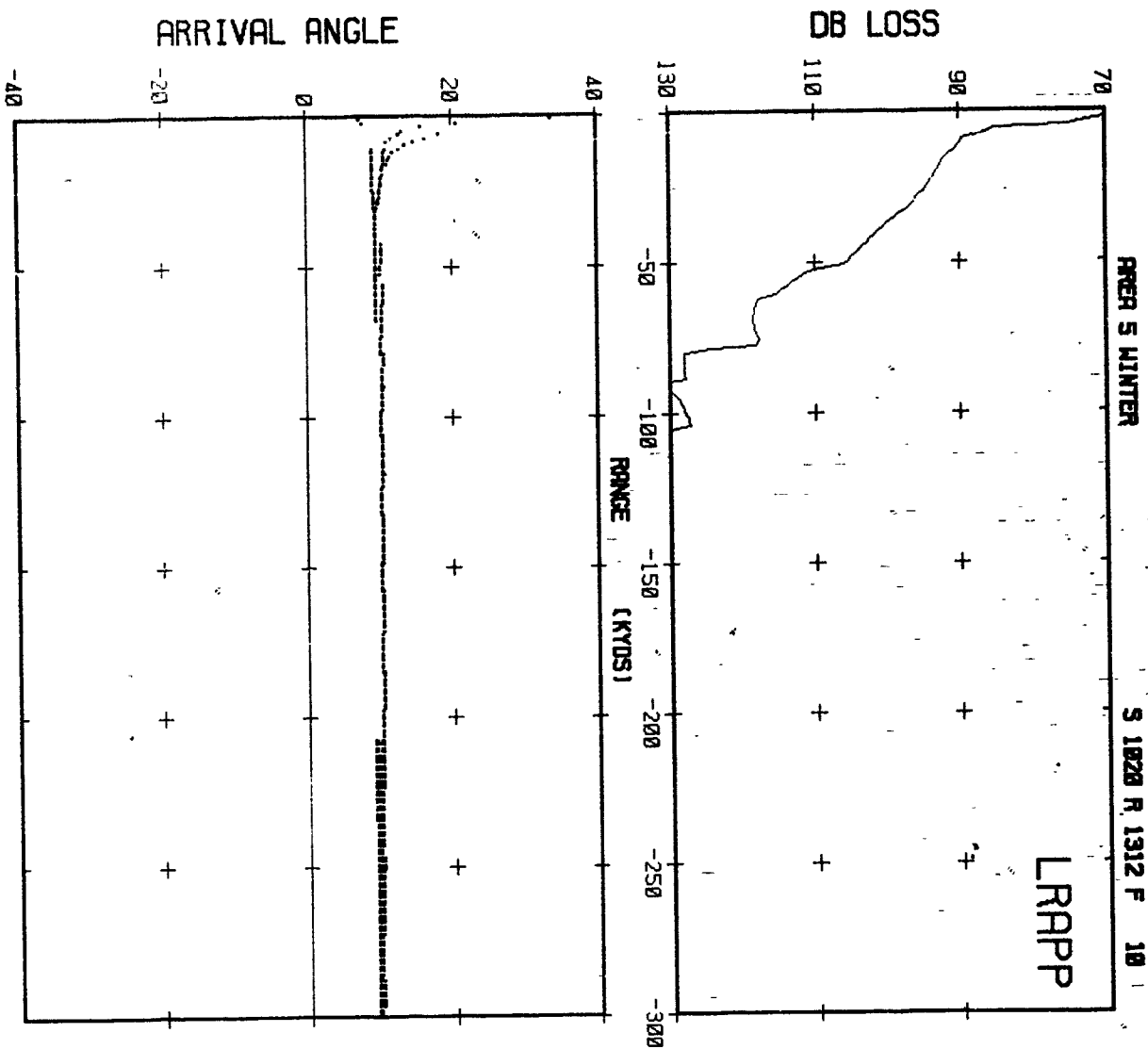


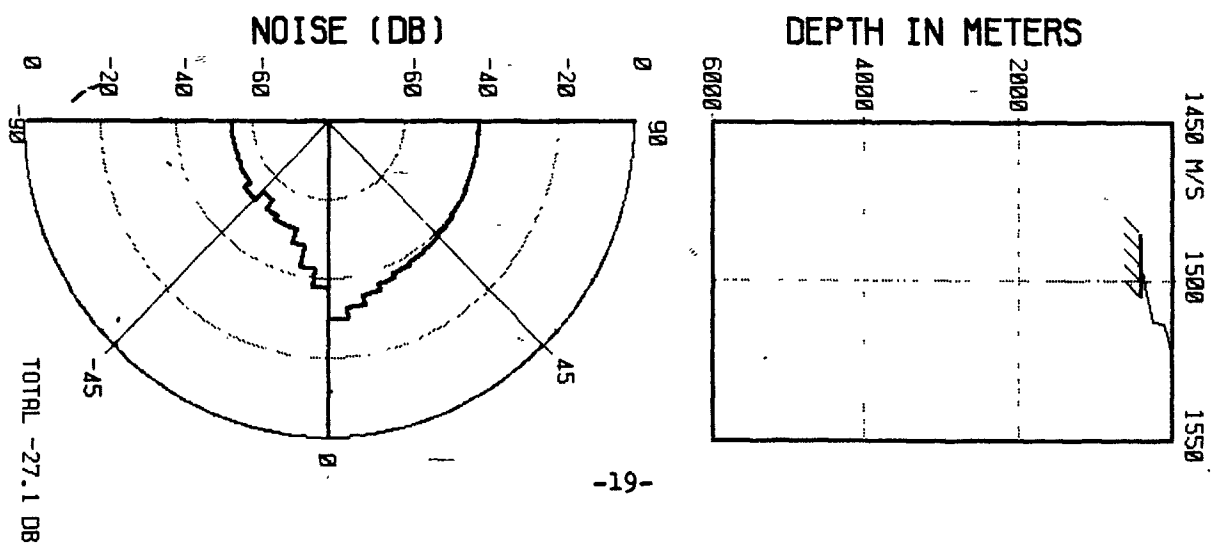
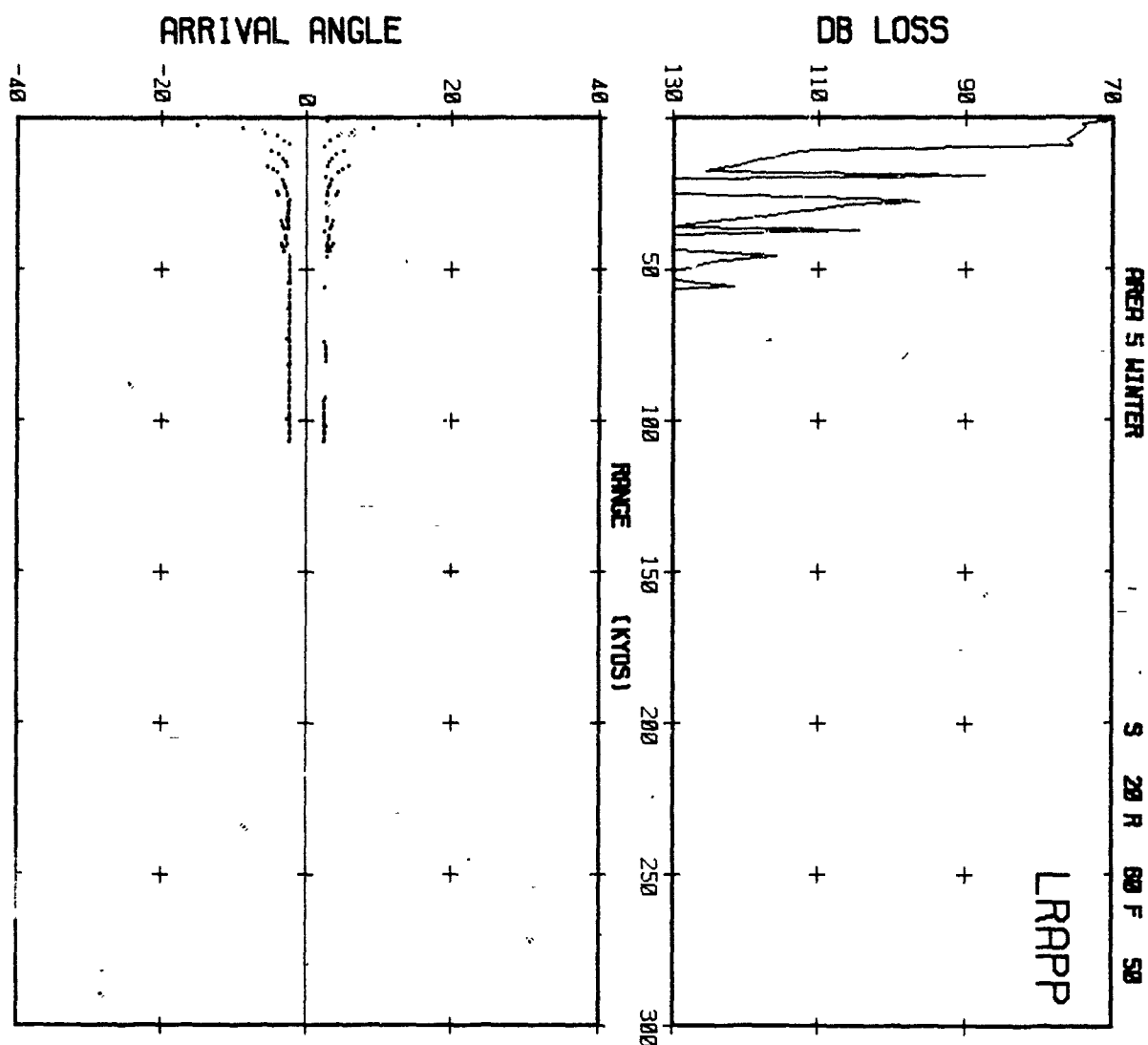
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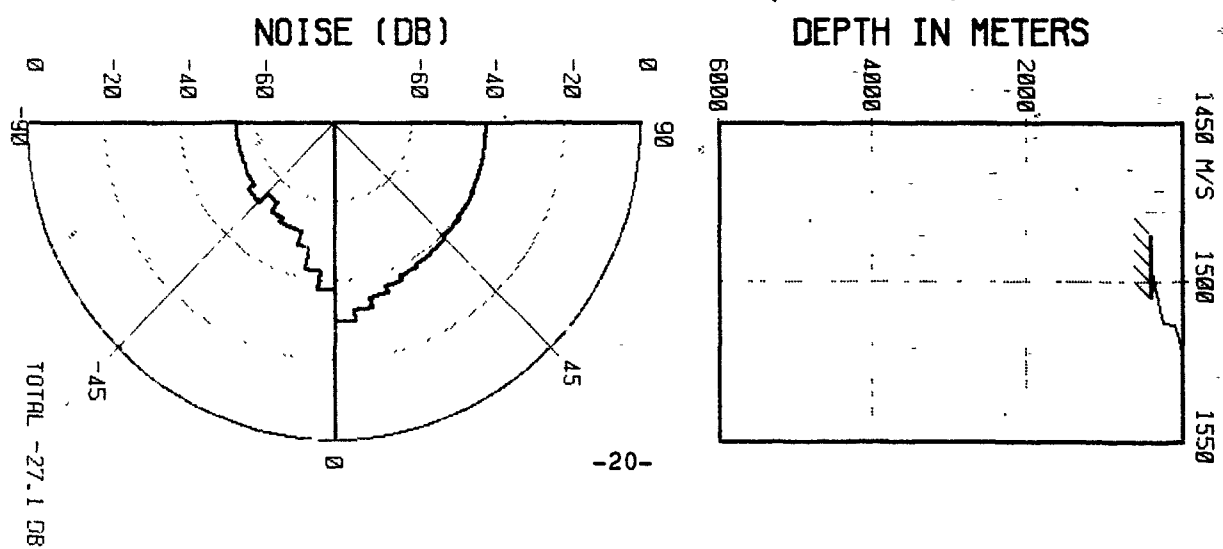
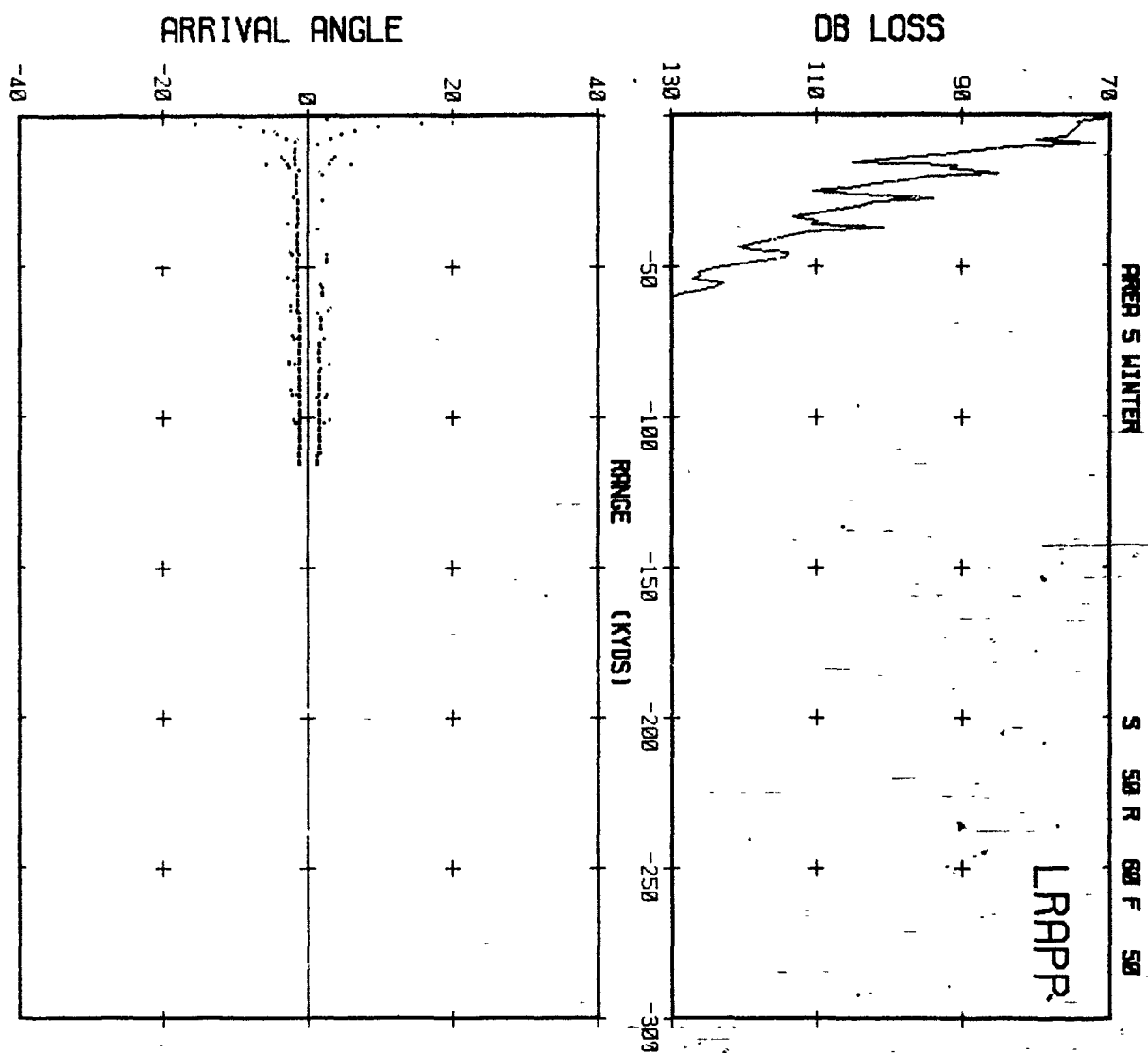


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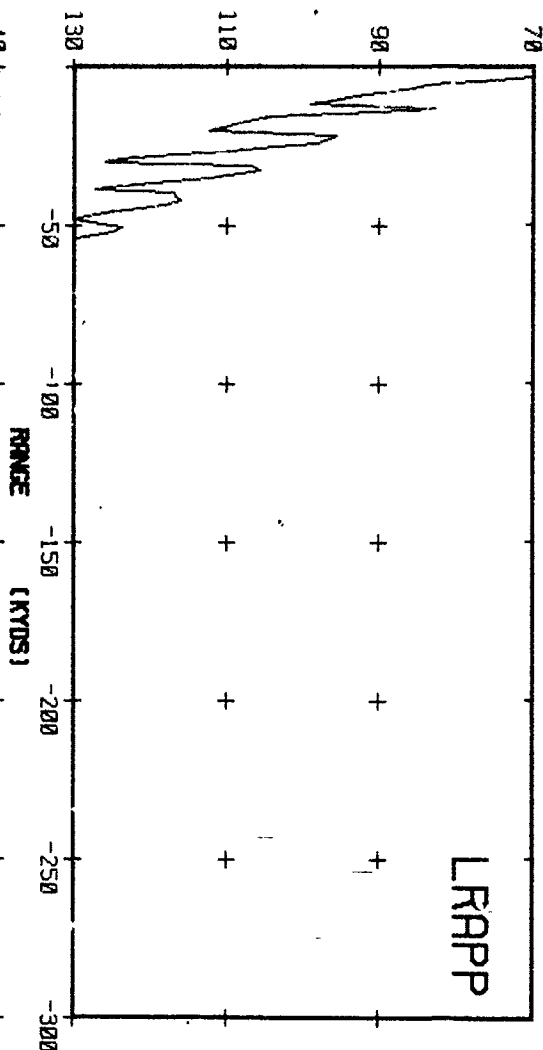


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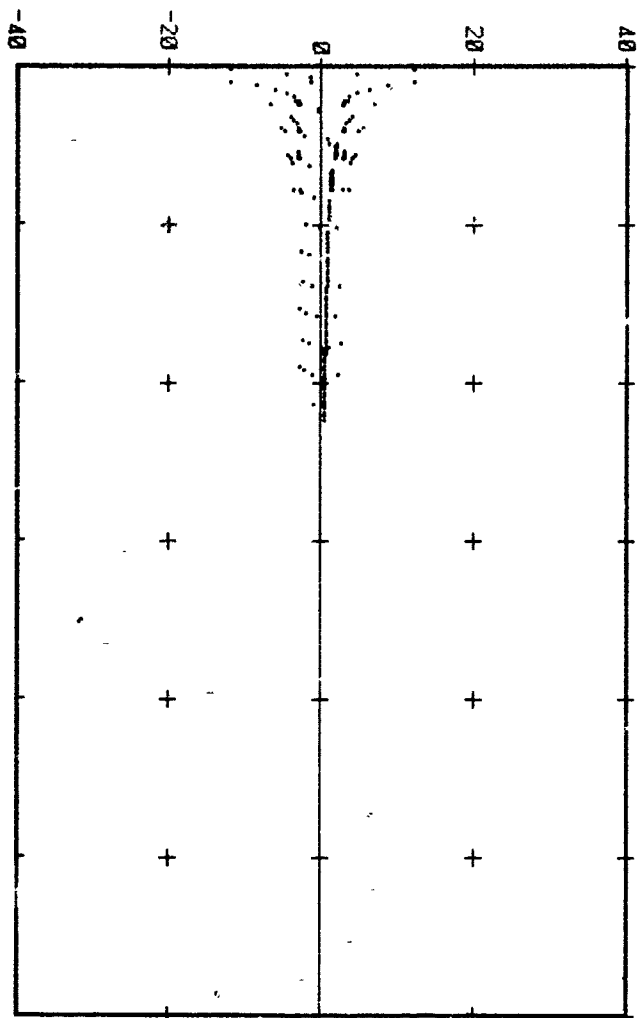
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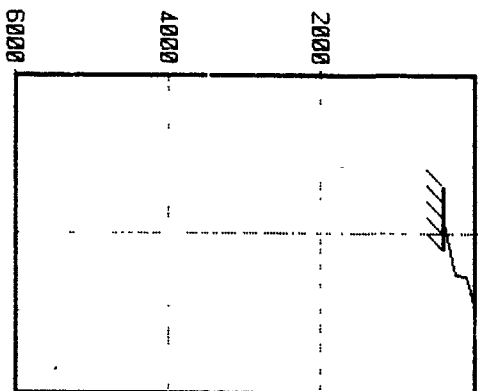
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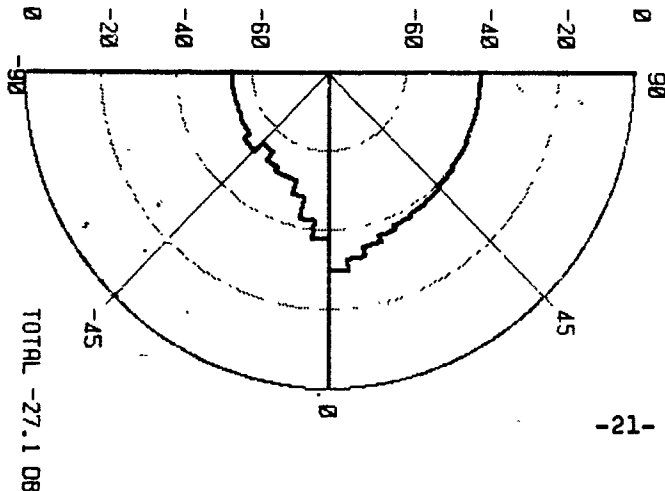
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

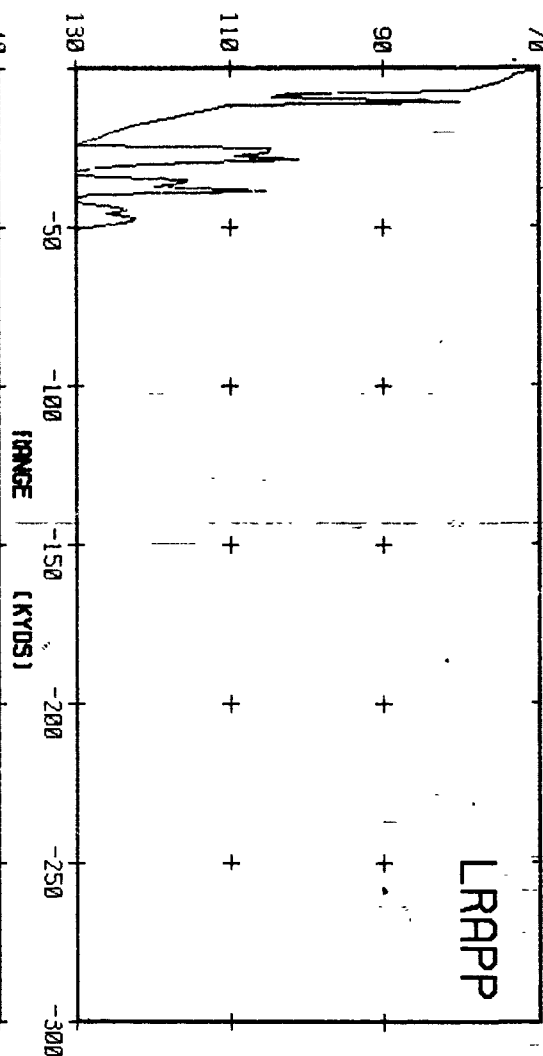


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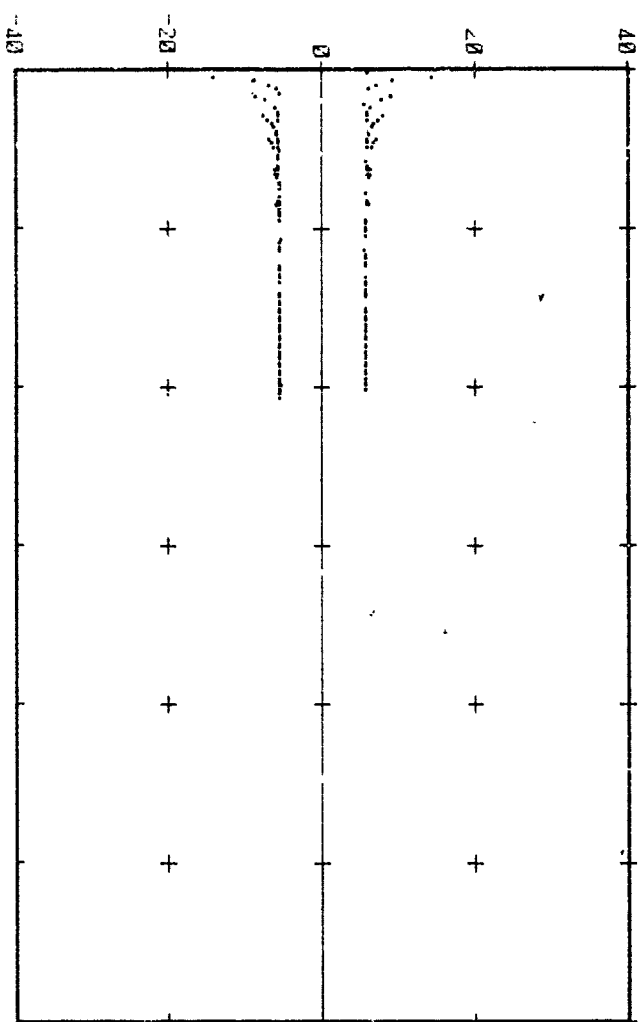
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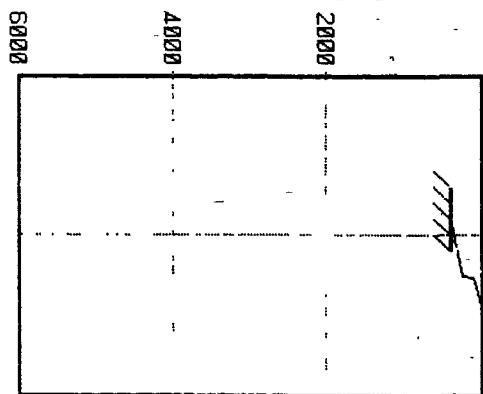
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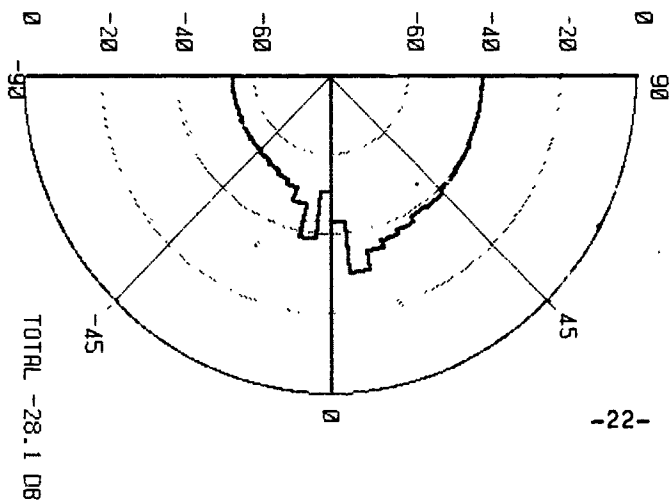
ARRIVAL ANGLE

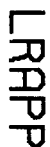


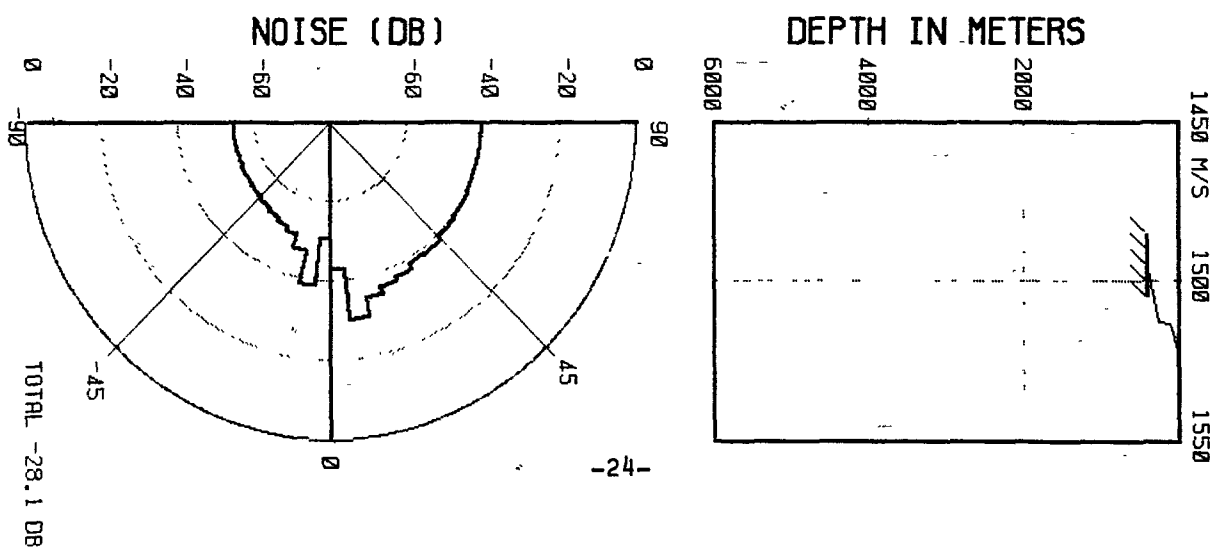
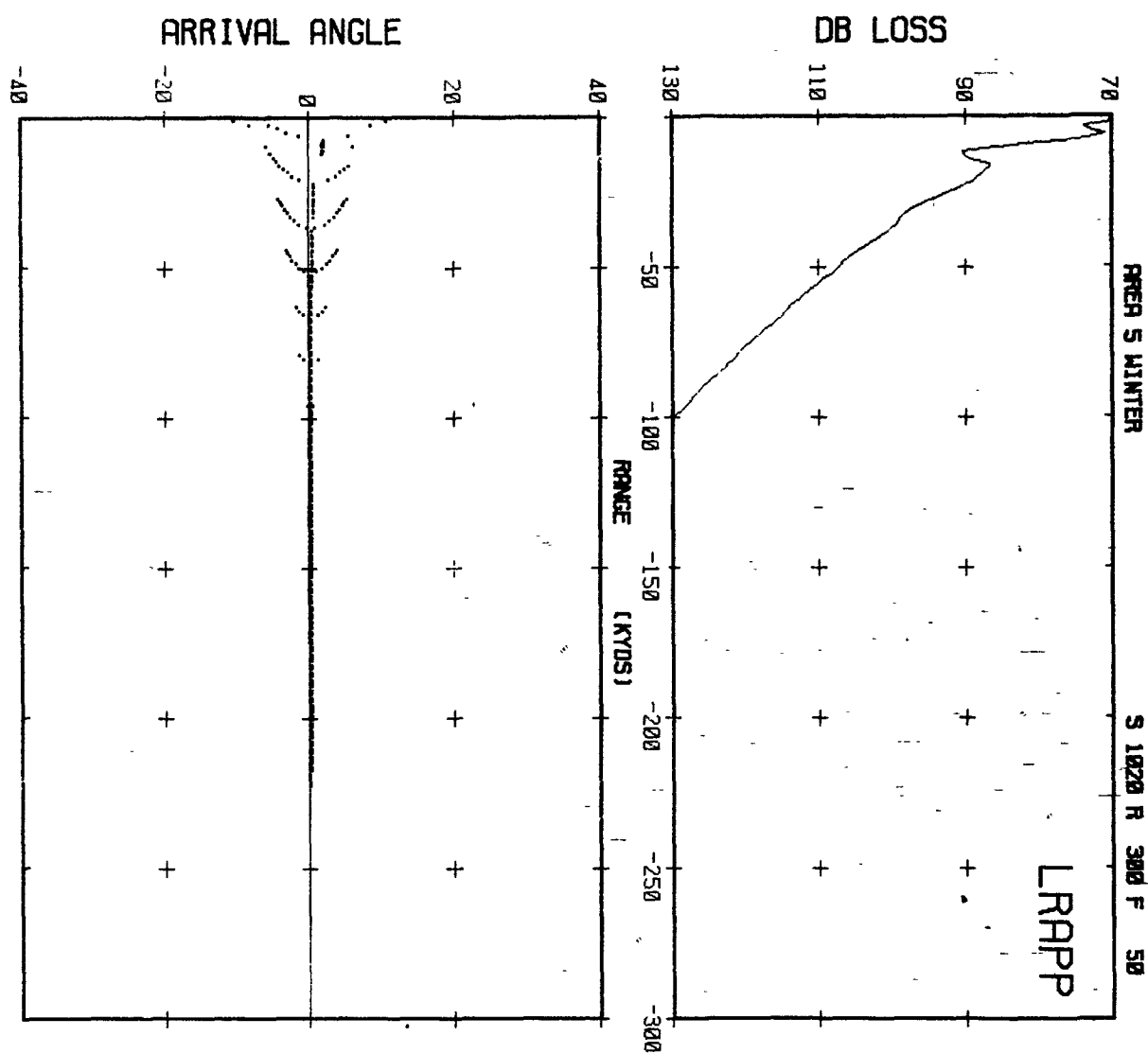
DEPTH IN METERS



NOISE (DB)





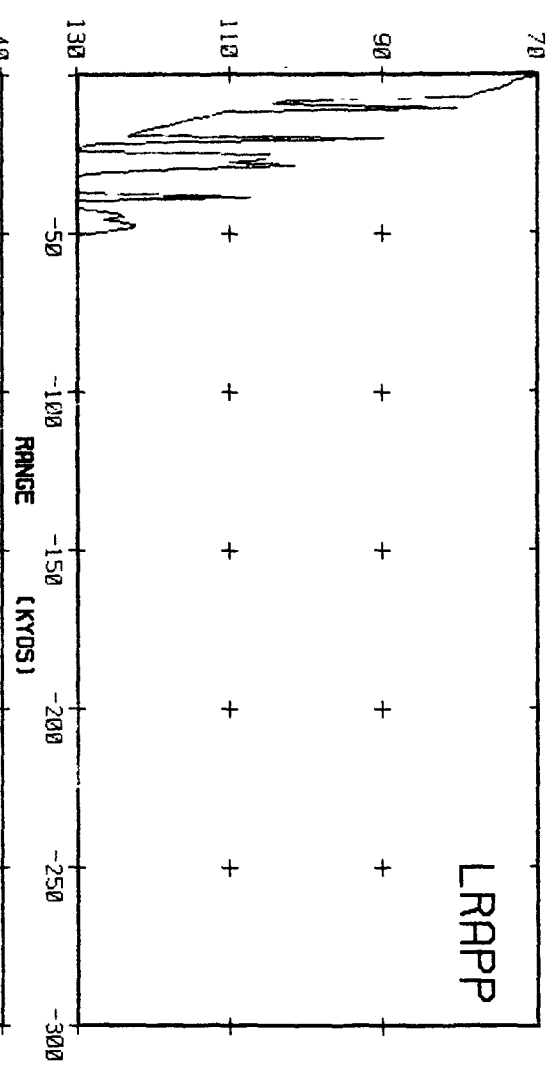


AREA 5 KINTER

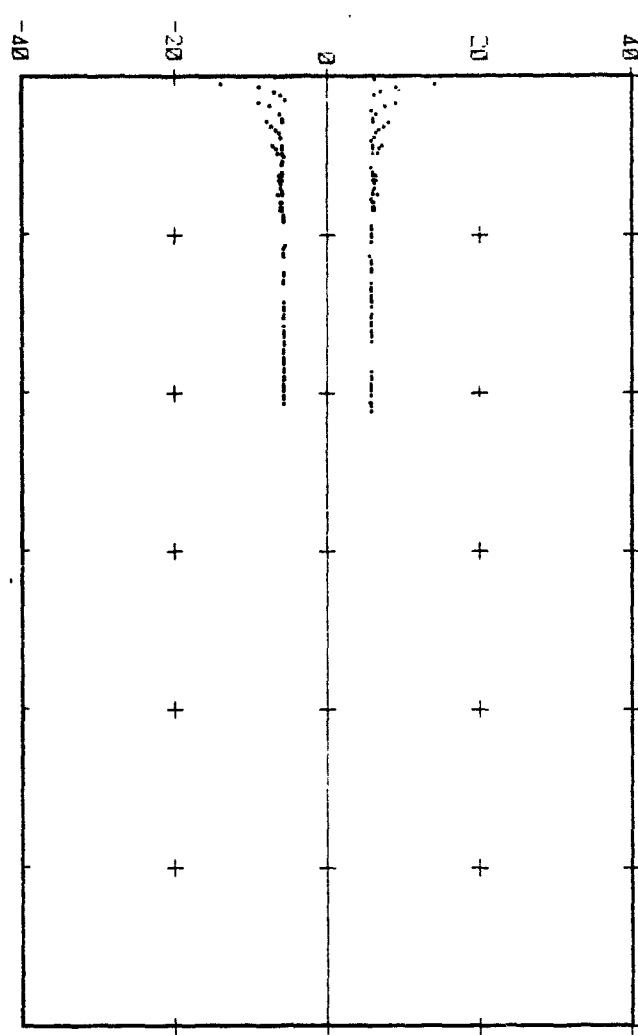
S 28 R 328 F 50

1450 M/S 1500 1550

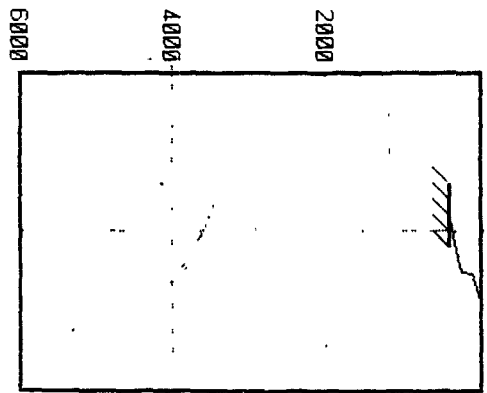
DB LOSS



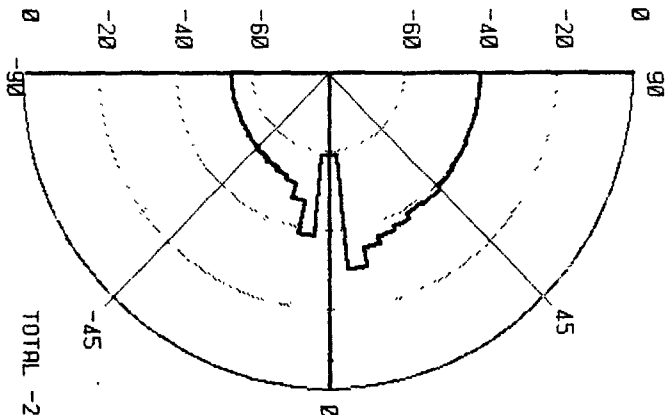
ARRIVAL ANGLE



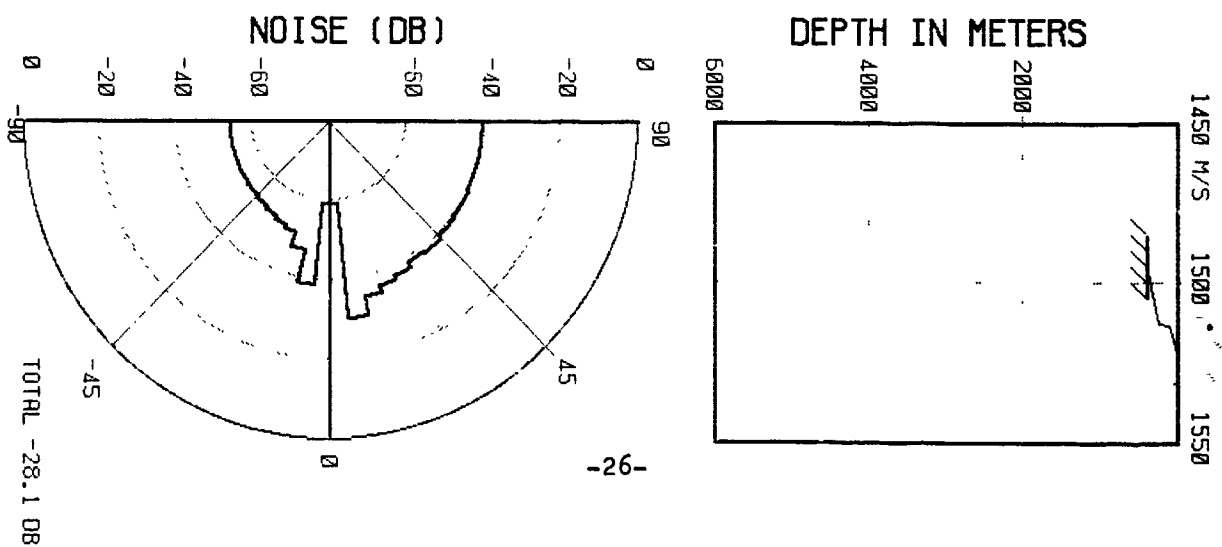
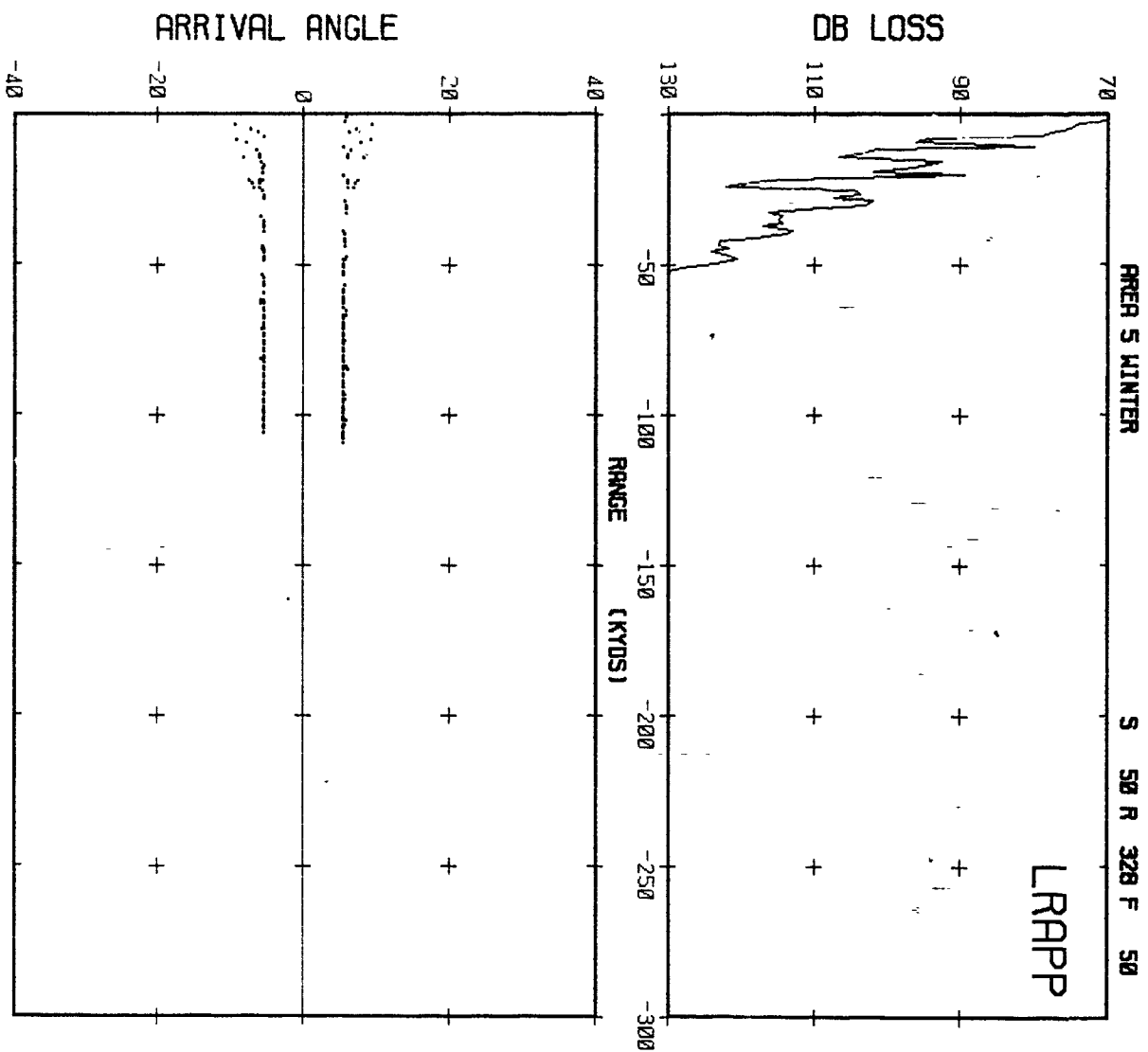
DEPTH IN METERS

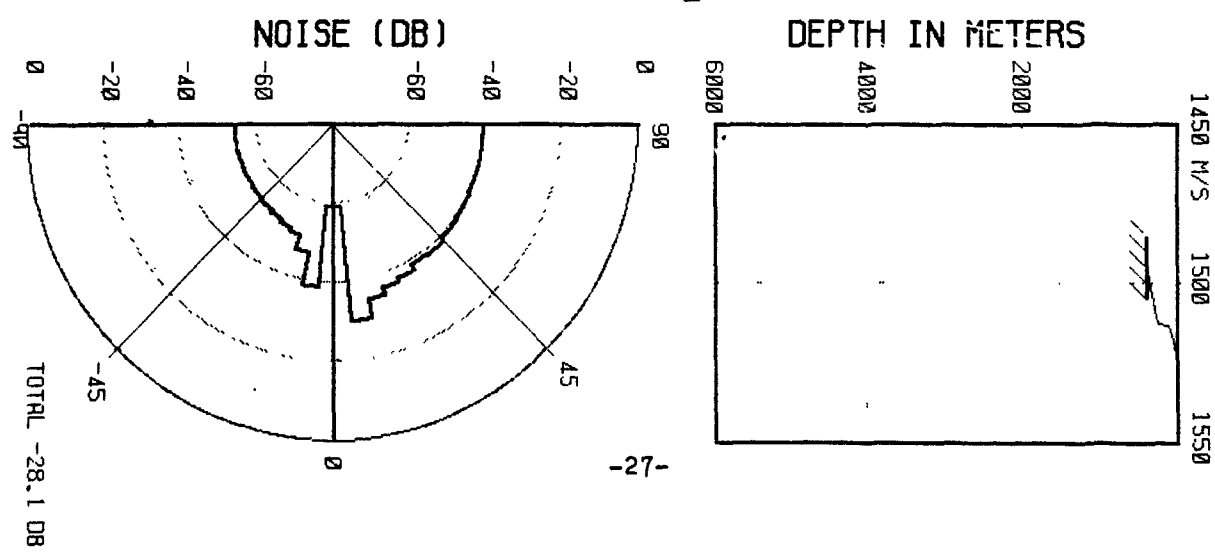
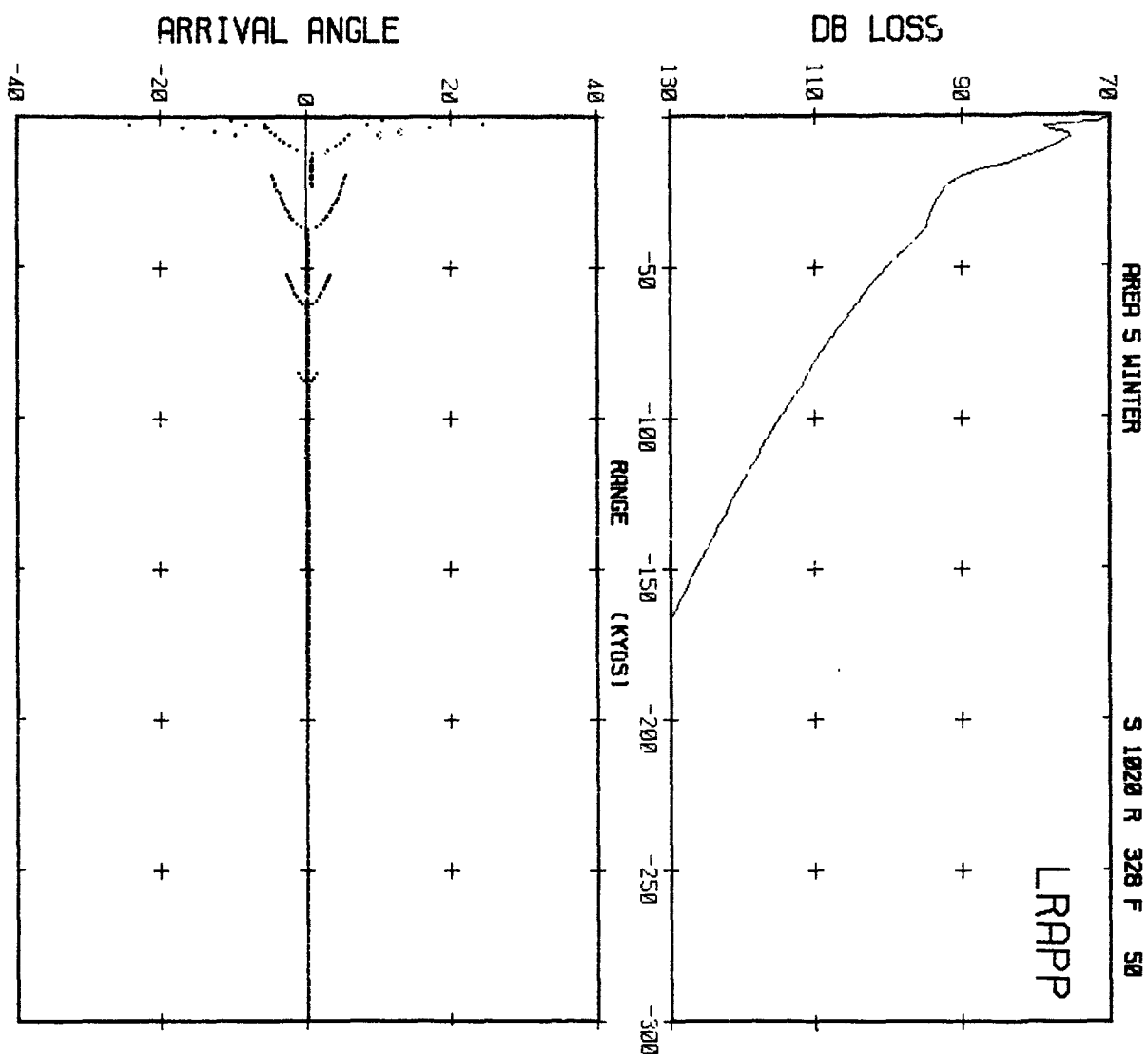


NOISE (DB)



TOTAL -28.1 DB



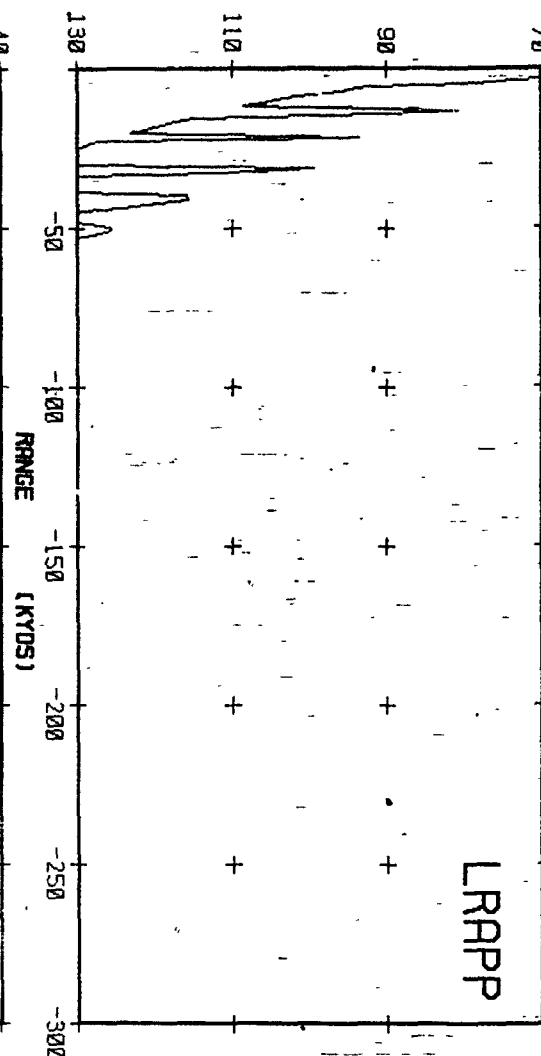


AREA 5 WINTER

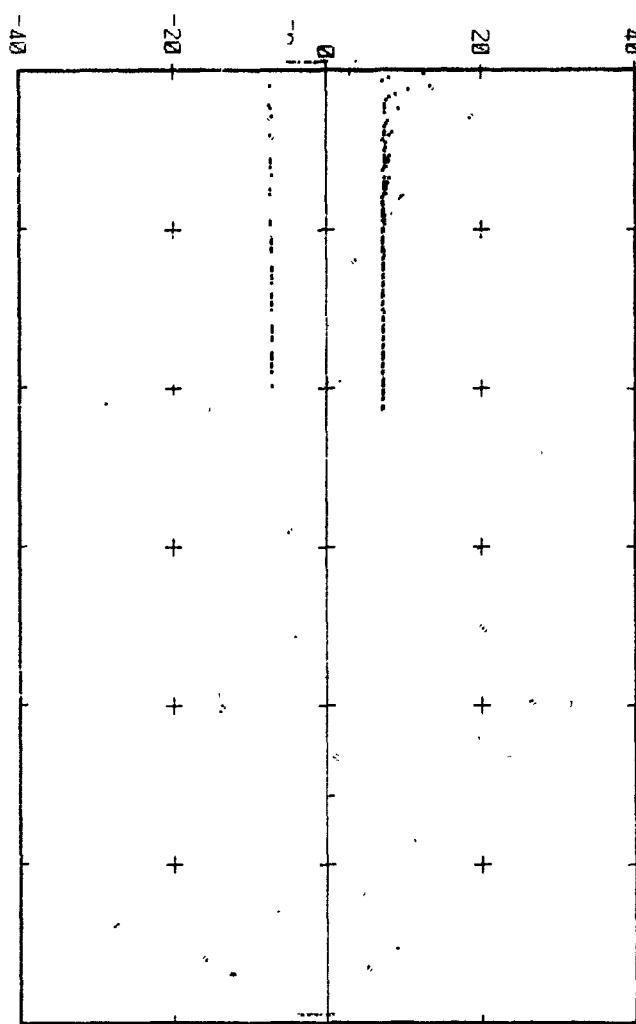
S 20 R 920 F 50

1450 M/S 1500 1550

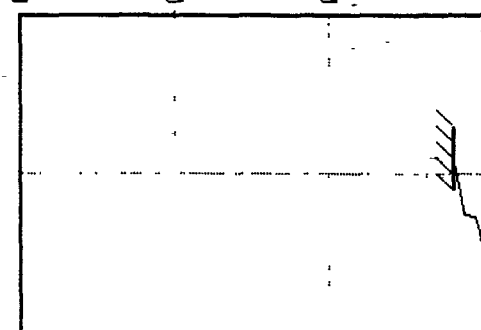
DB LOSS



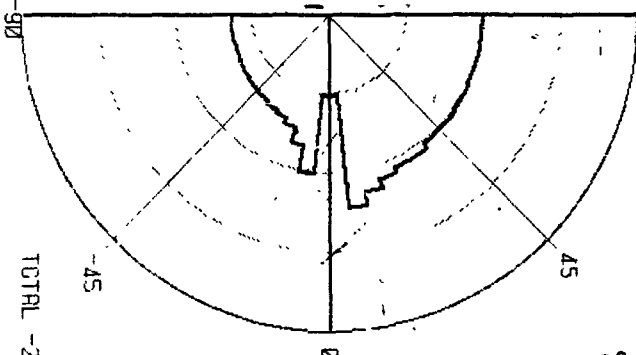
ARRIVAL ANGLE



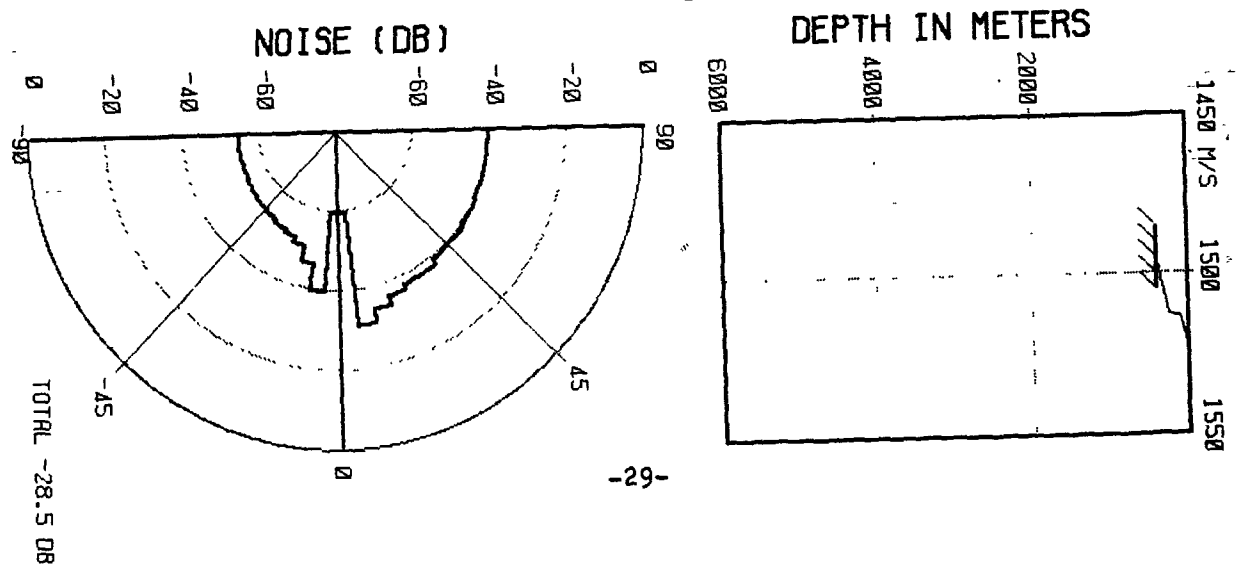
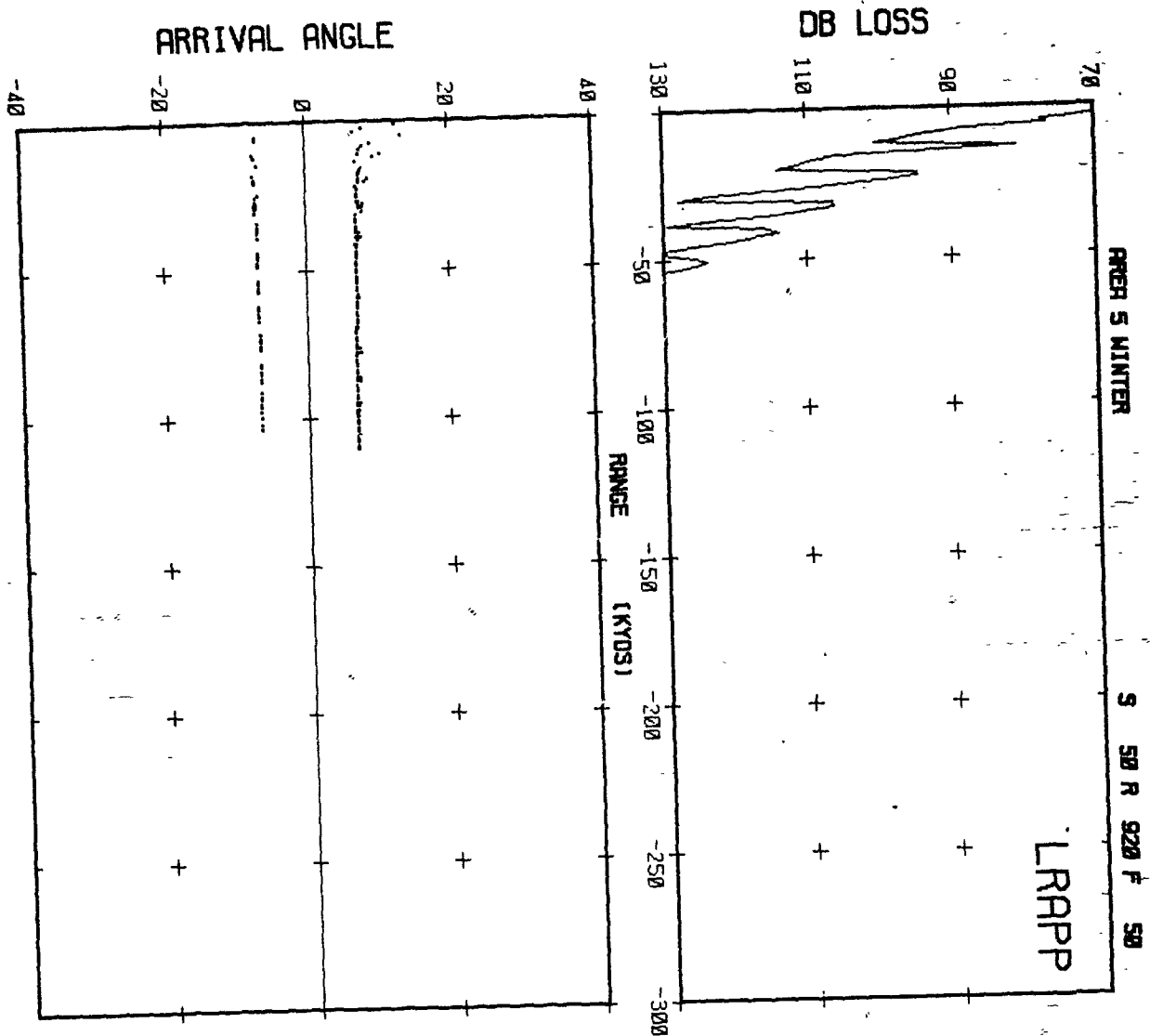
DEPTH IN METERS

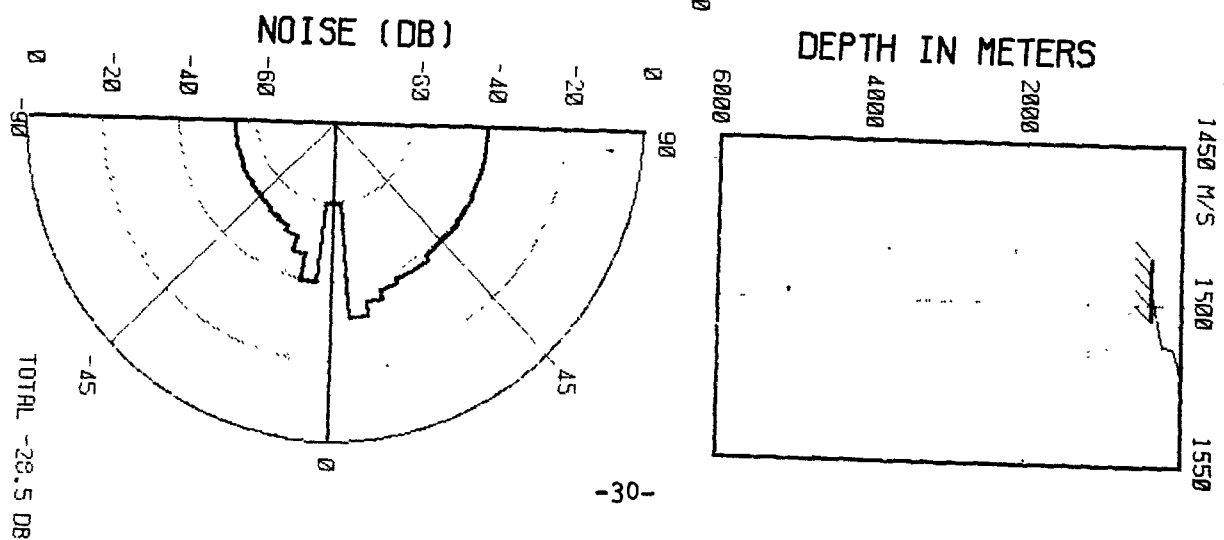
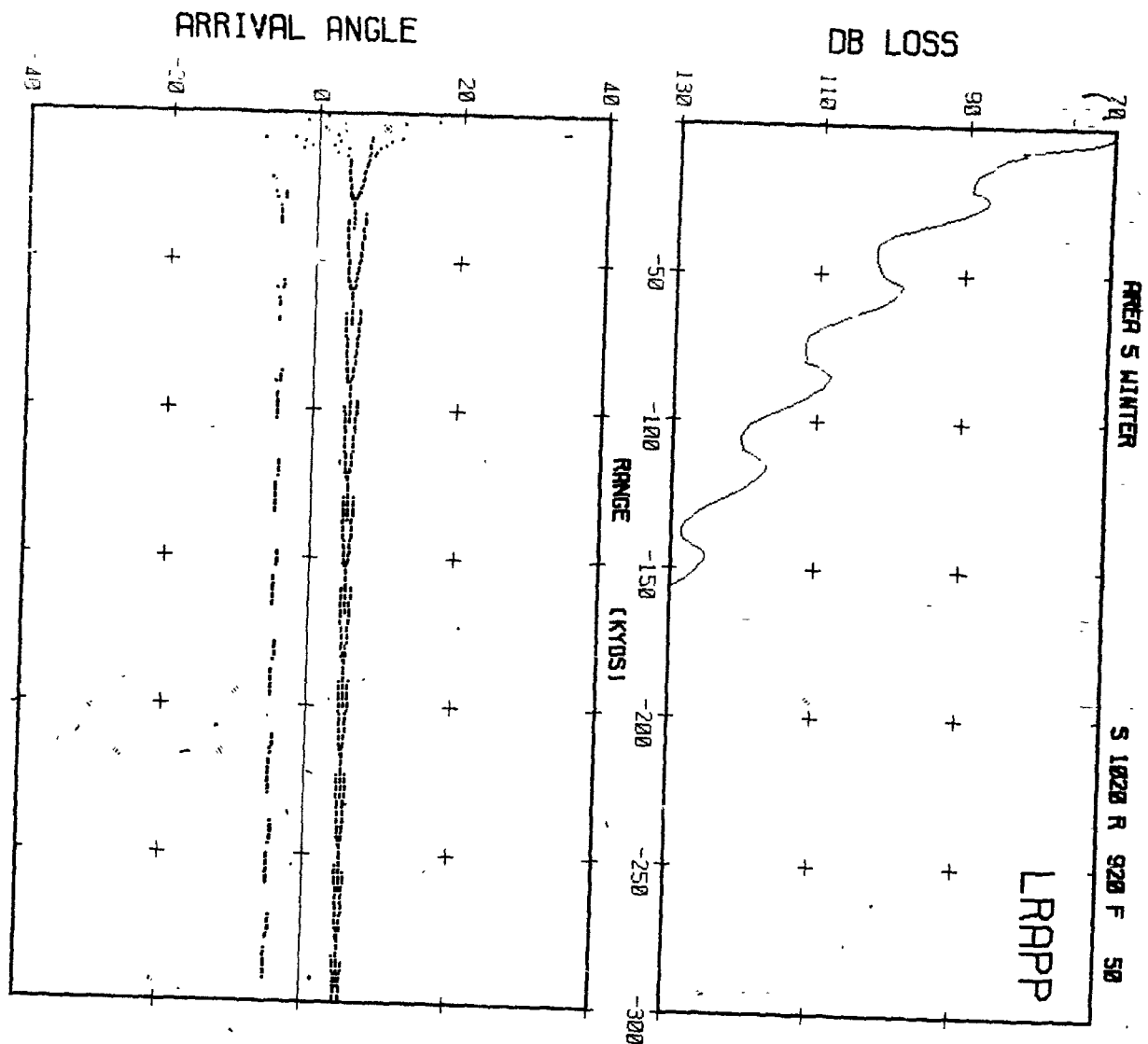


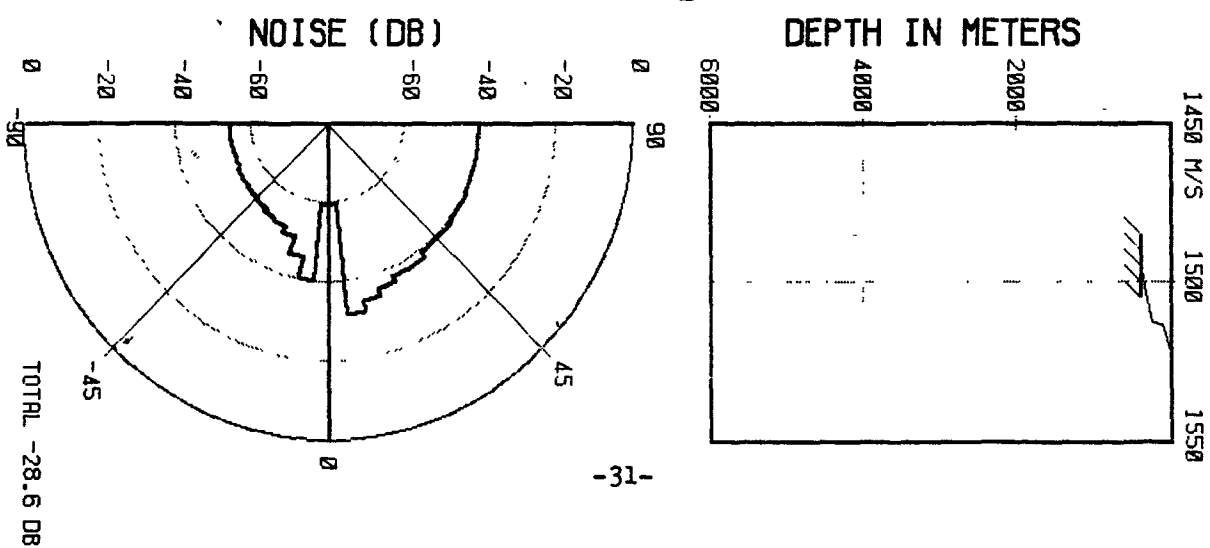
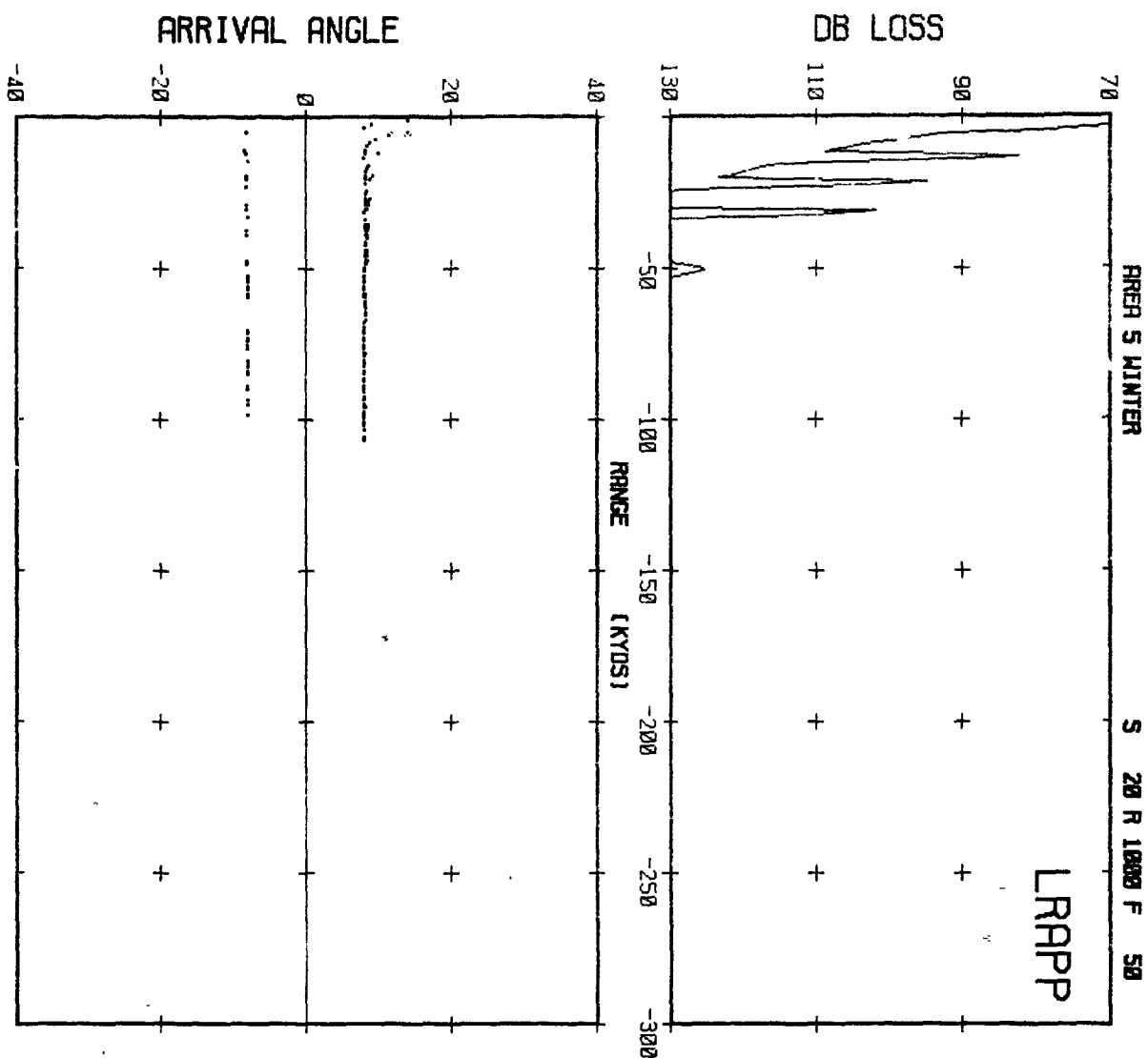
NOISE (DB)



TOTAL -28.5 DB



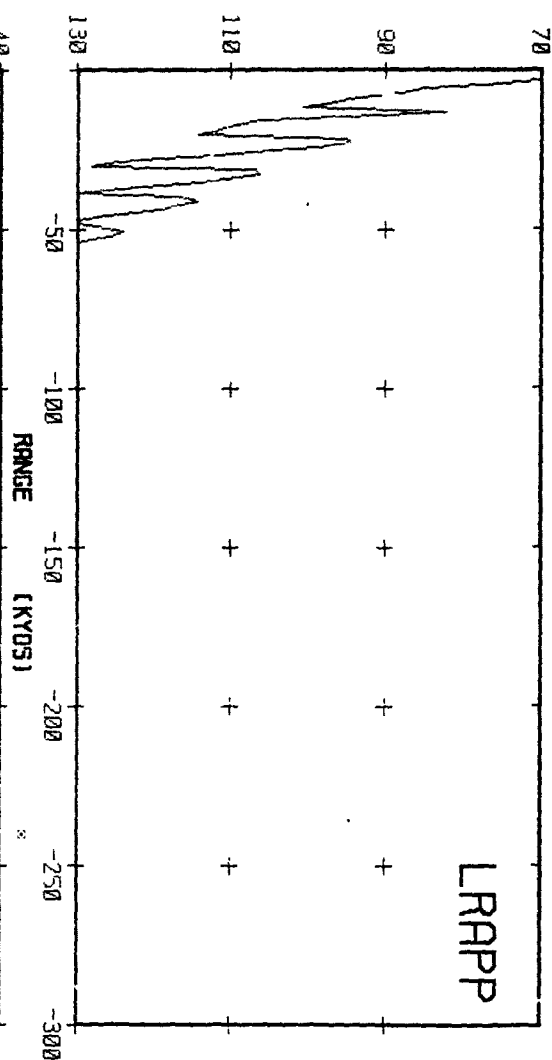




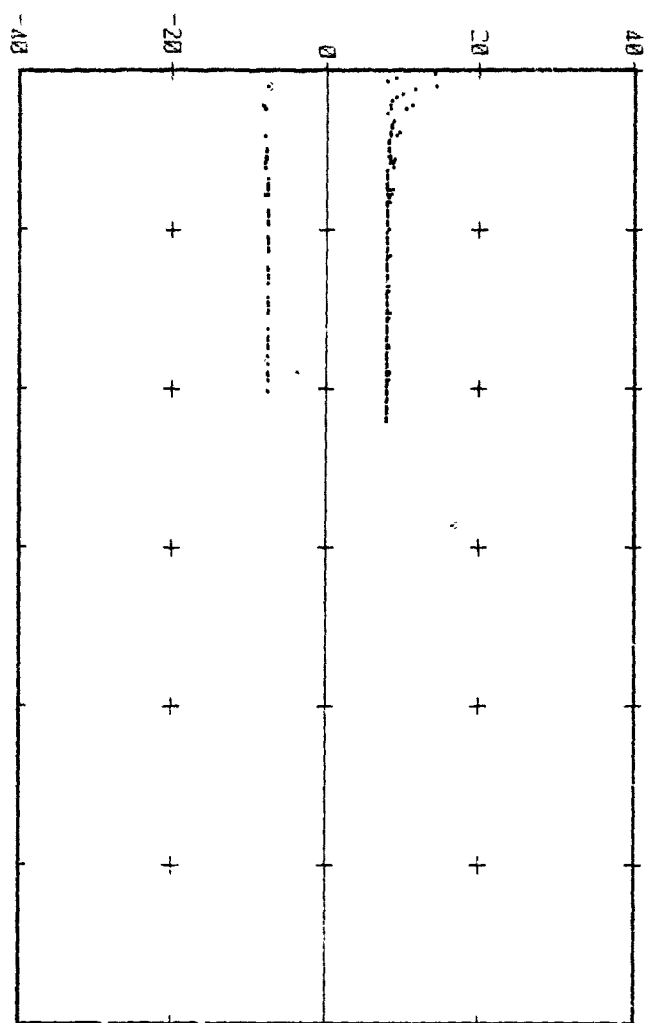
AREA 5 WINTER

S 50 R 1000 F 50

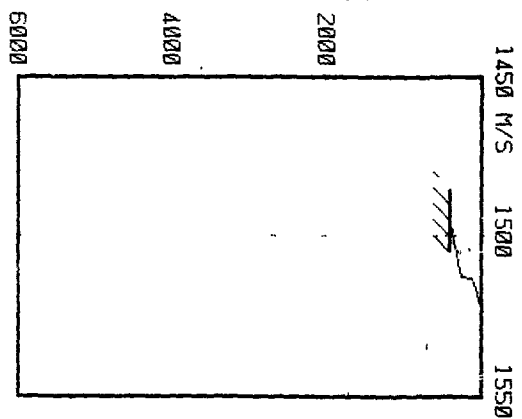
DB LOSS



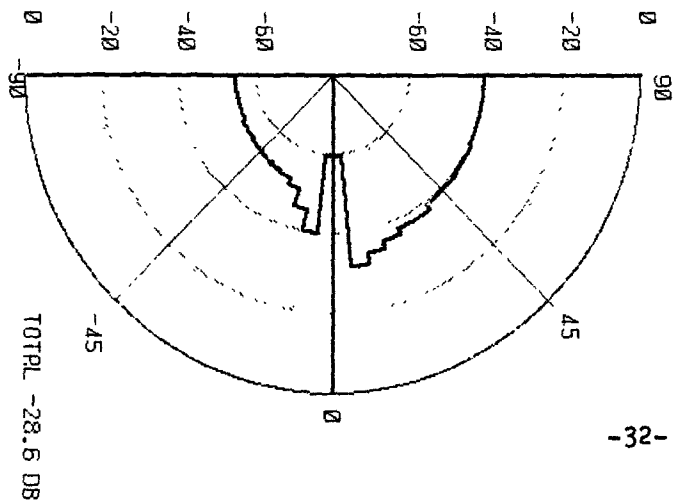
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

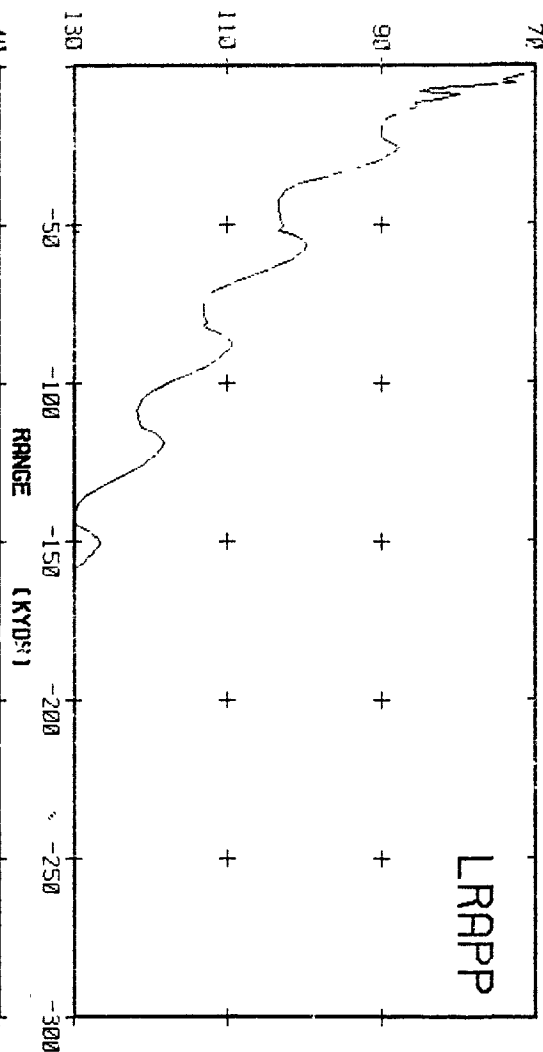


AREA 5 WINTER

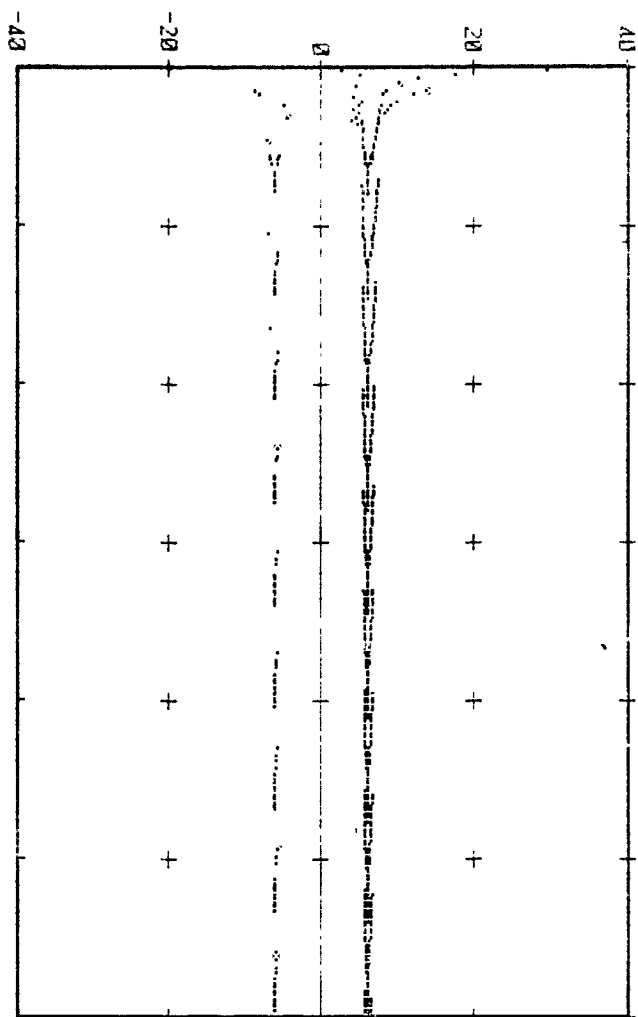
S 1020 R 1000 F 50

1450 M/S 1500 1550

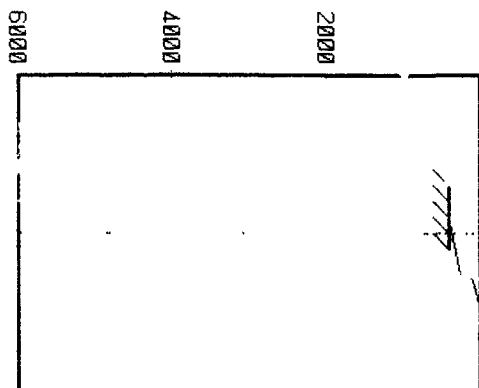
DB LOSS



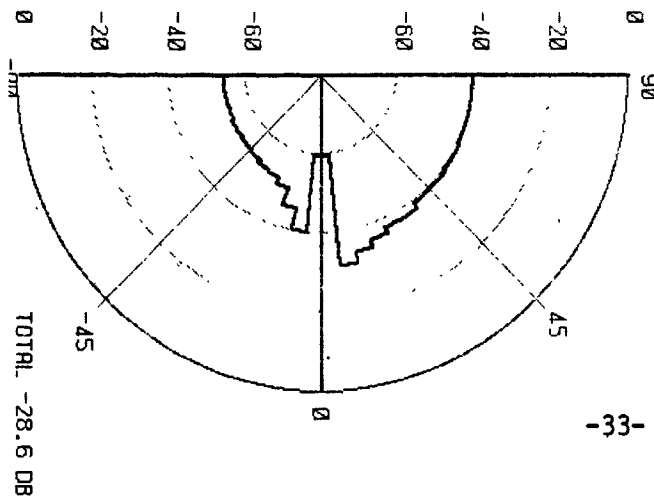
ARRIVAL ANGLE



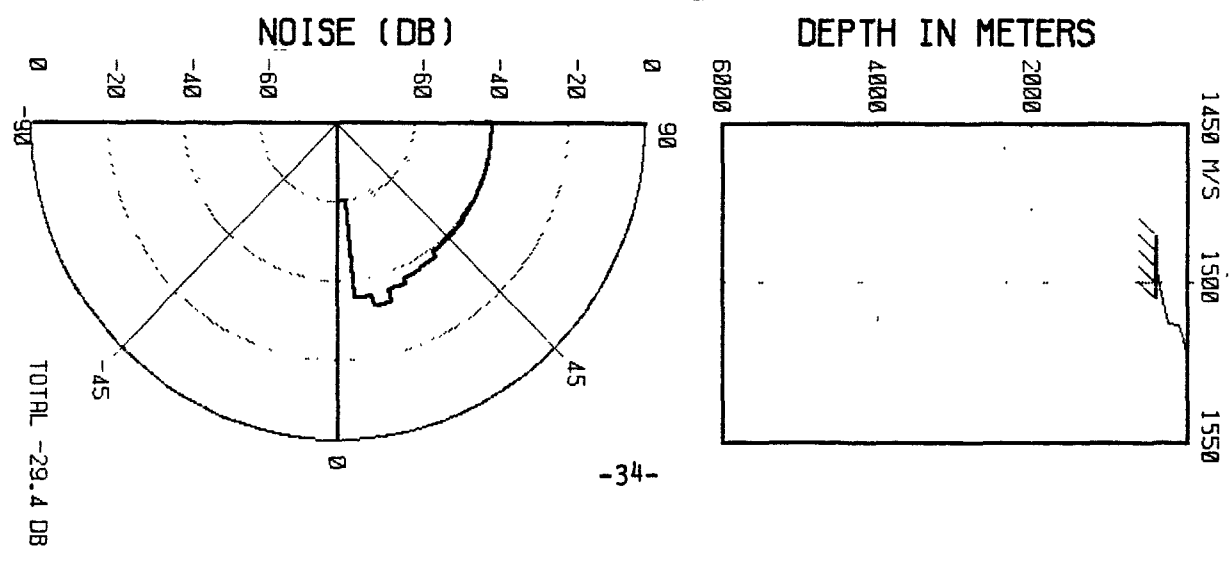
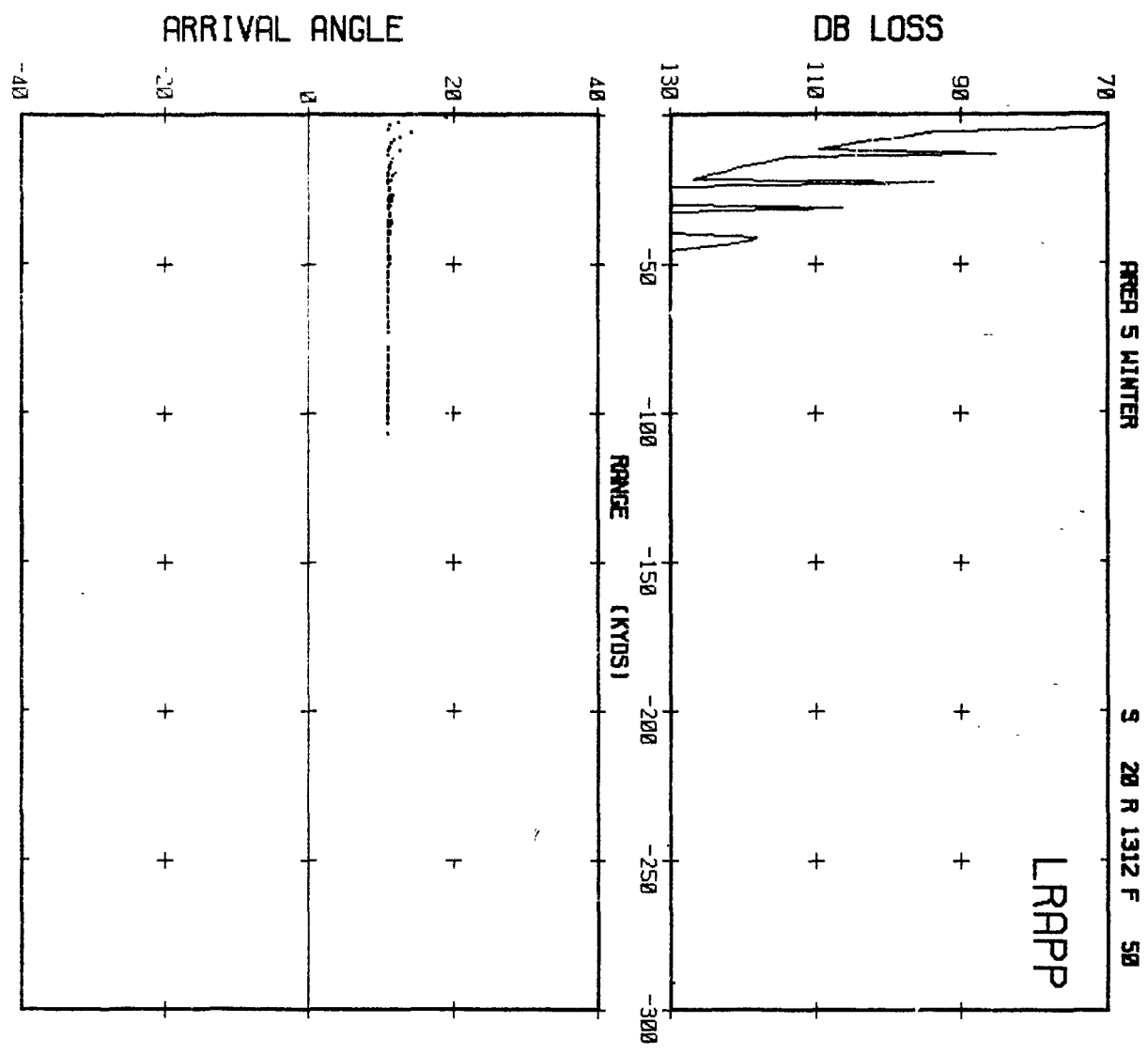
DEPTH IN METERS



NOISE (DB)



1. Submarine
 2. Surface Ship
 3. Aircraft
 4. Other

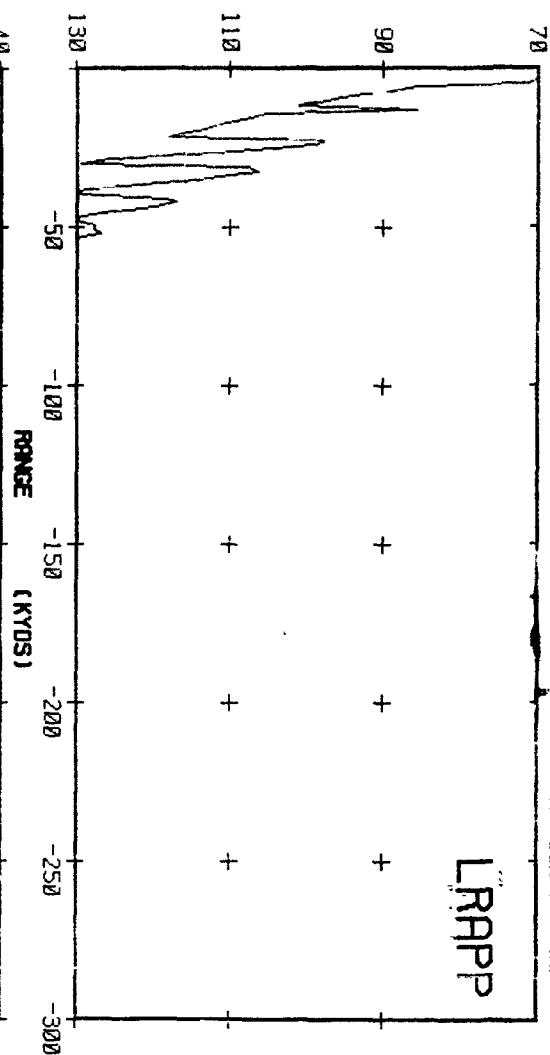


ARRER S WINTER

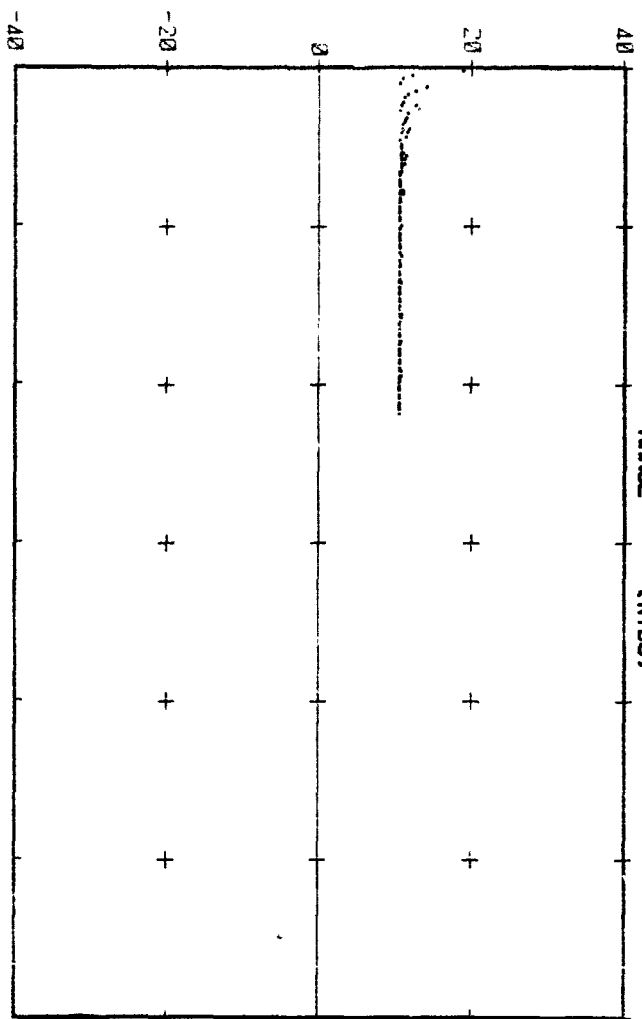
S 50 R 1312 F 50

LRAPP

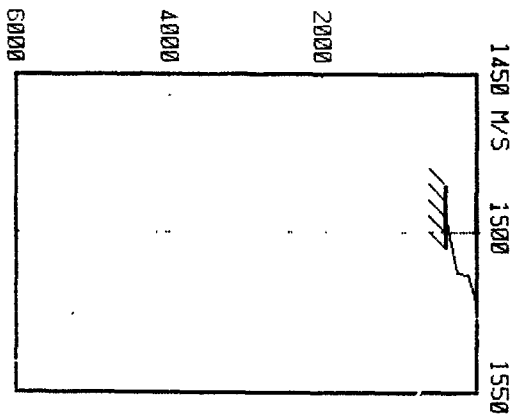
DB LOSS



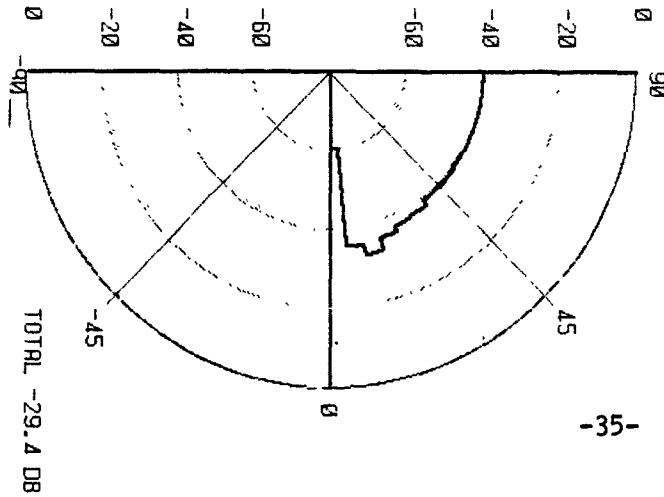
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



AREA 5 WINTER

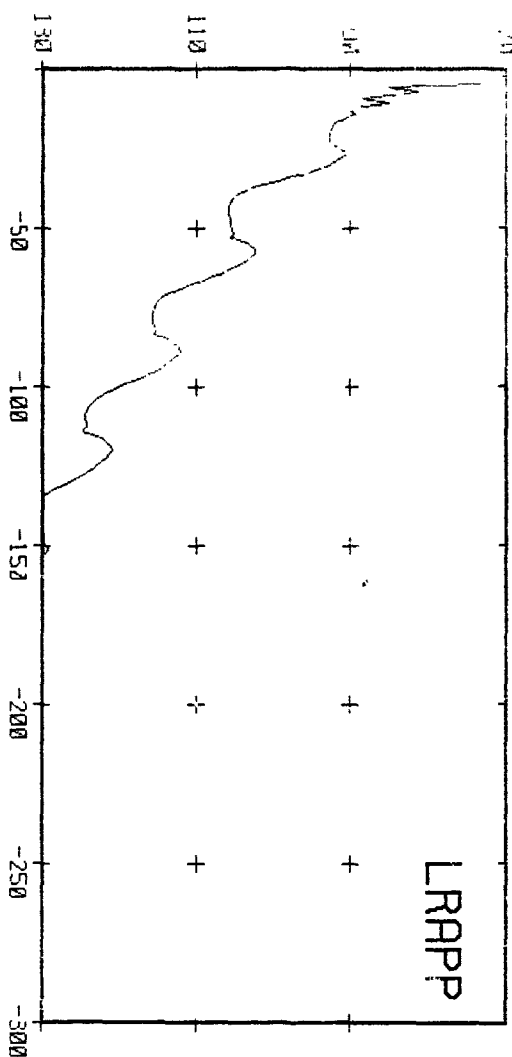
S 1020 R 1312 F 50

1450 M/S 1500

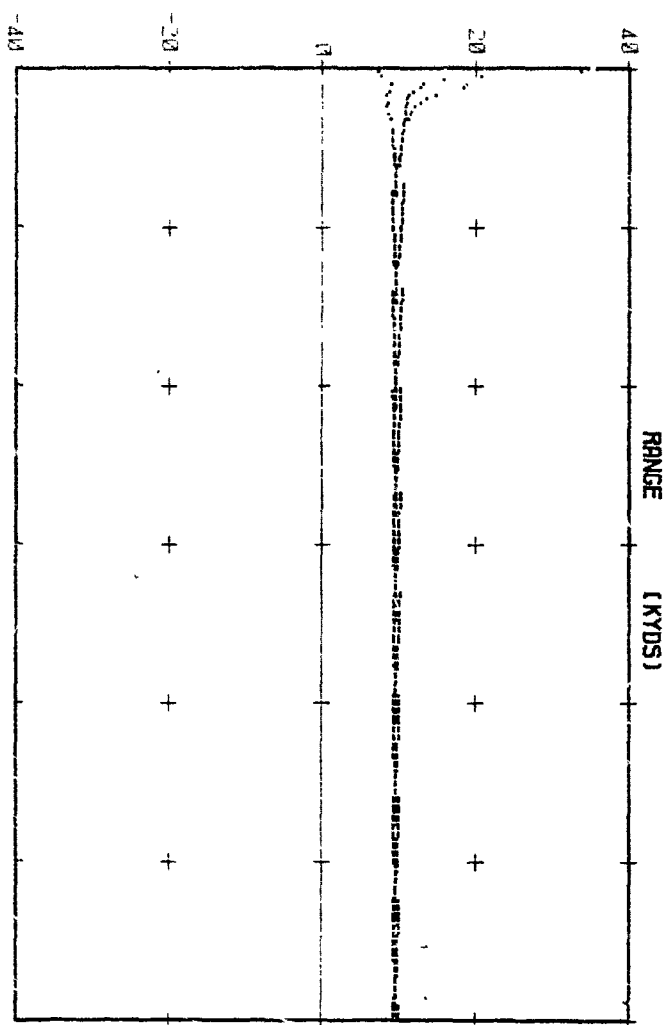
1550

LRAPP

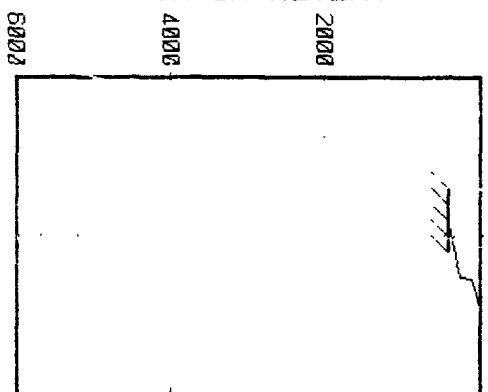
OB LOSS



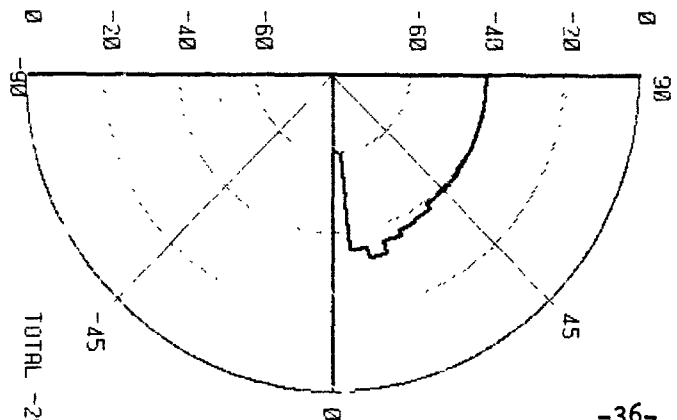
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



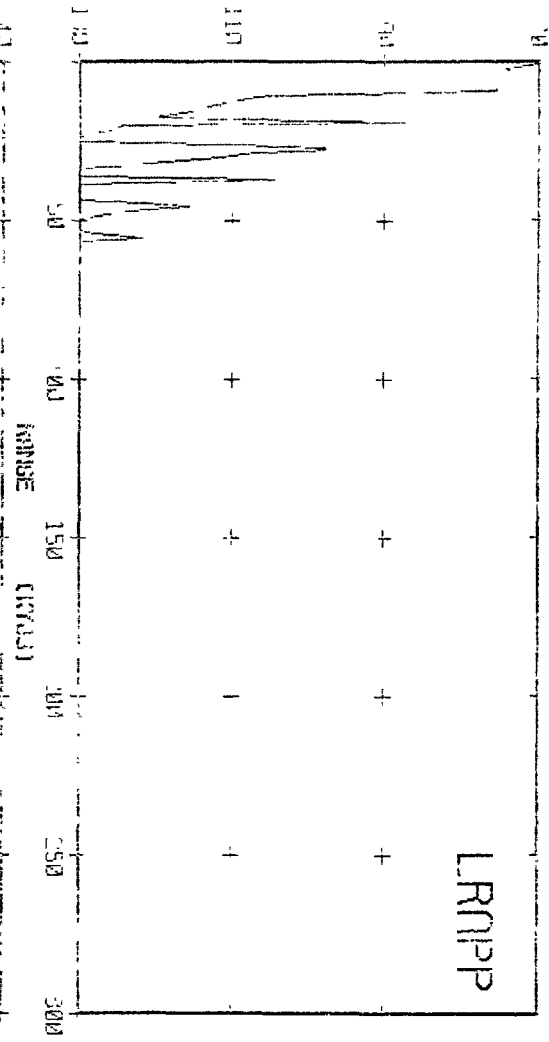
TOTAL -29.4 DB

AREA 5 WINTER

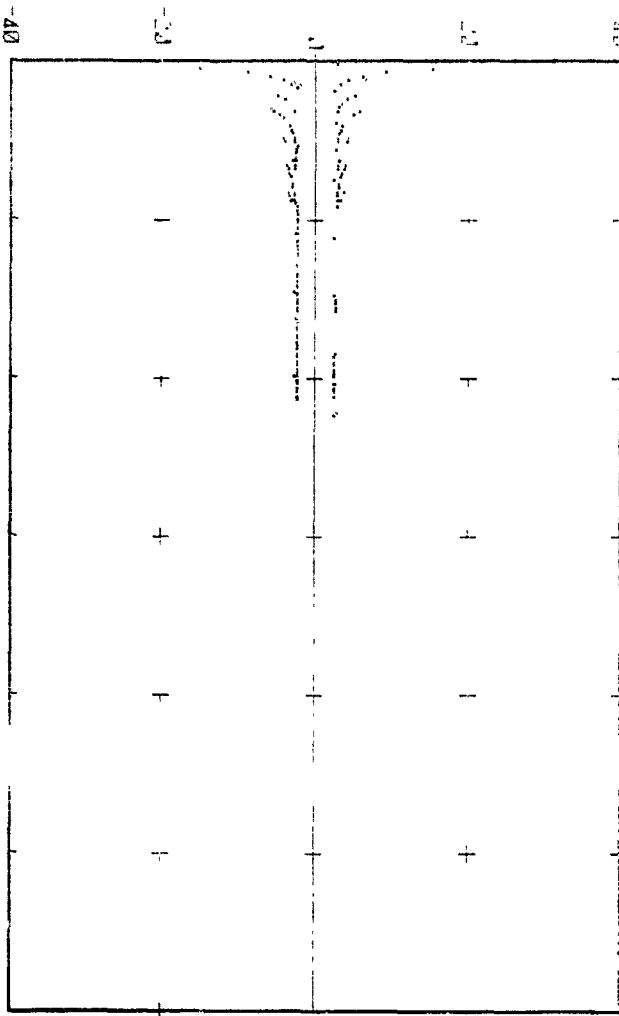
S 20 R 60 F 70

1450 H/S 1500 1550

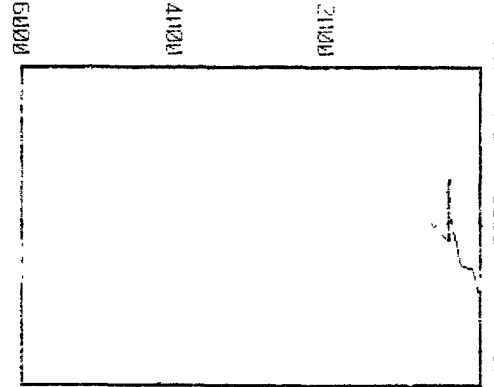
DB LOSS



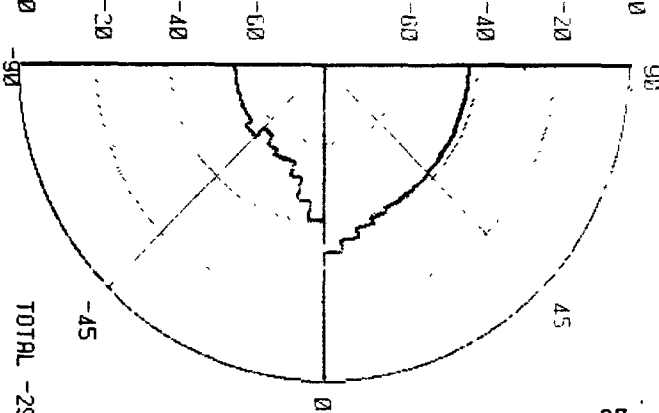
ARRIVAL ANGLE

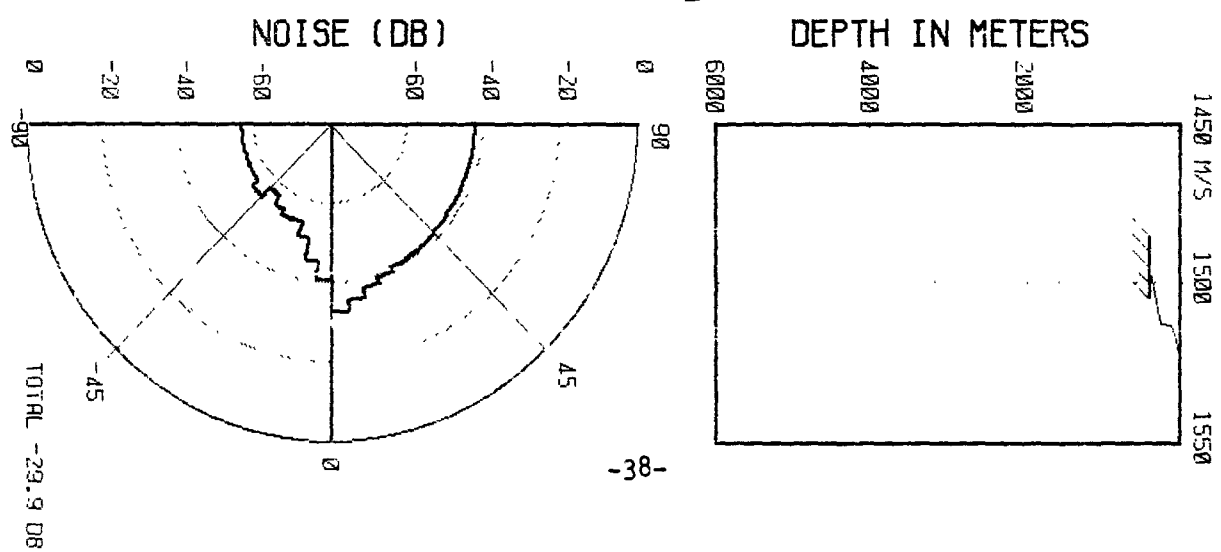
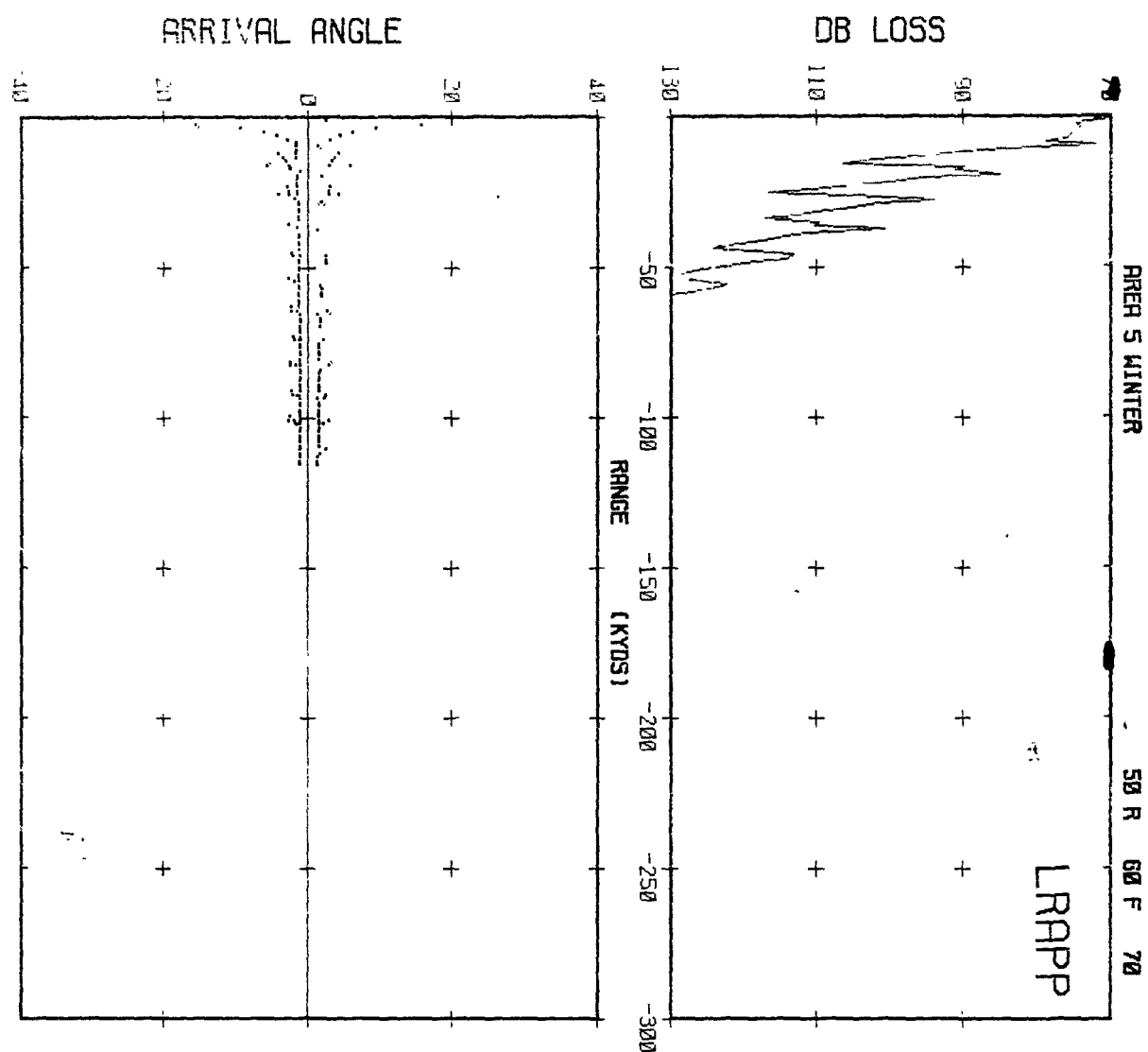


DEPTH IN METERS



NOISE (DB)



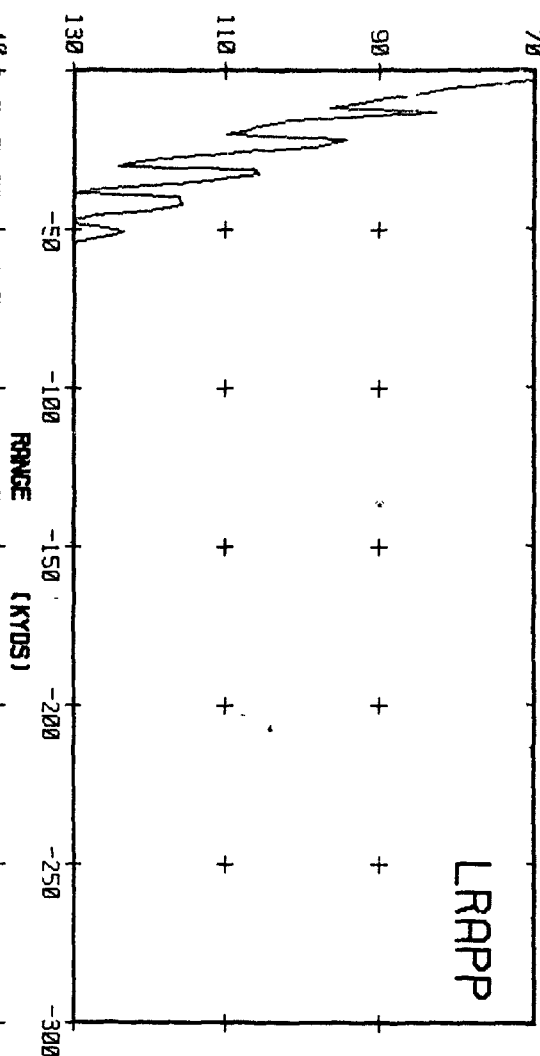


AREA 5 WINTER

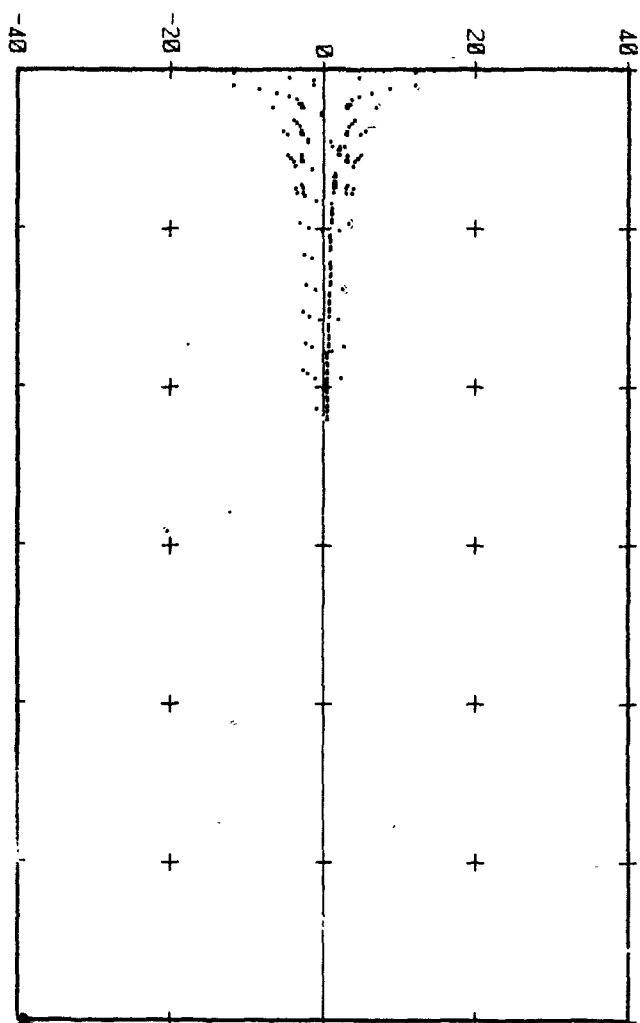
S 1020 R 00 F 70

1450 M/S 1500 1550

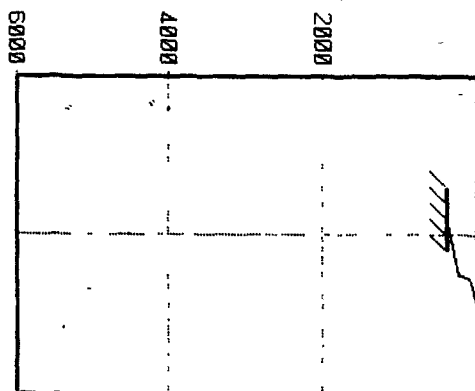
DB LOSS



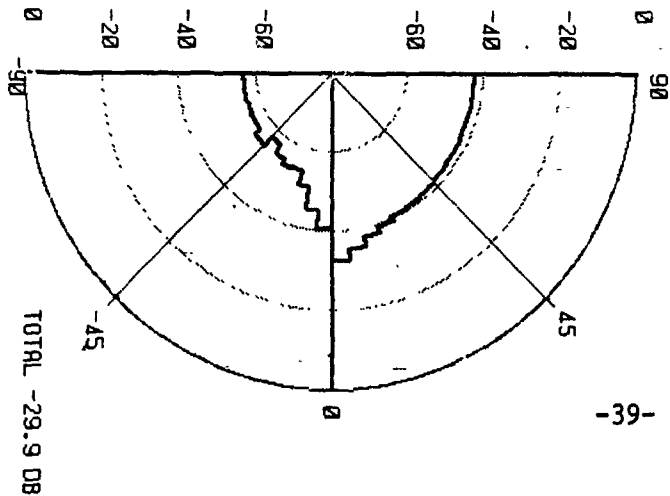
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

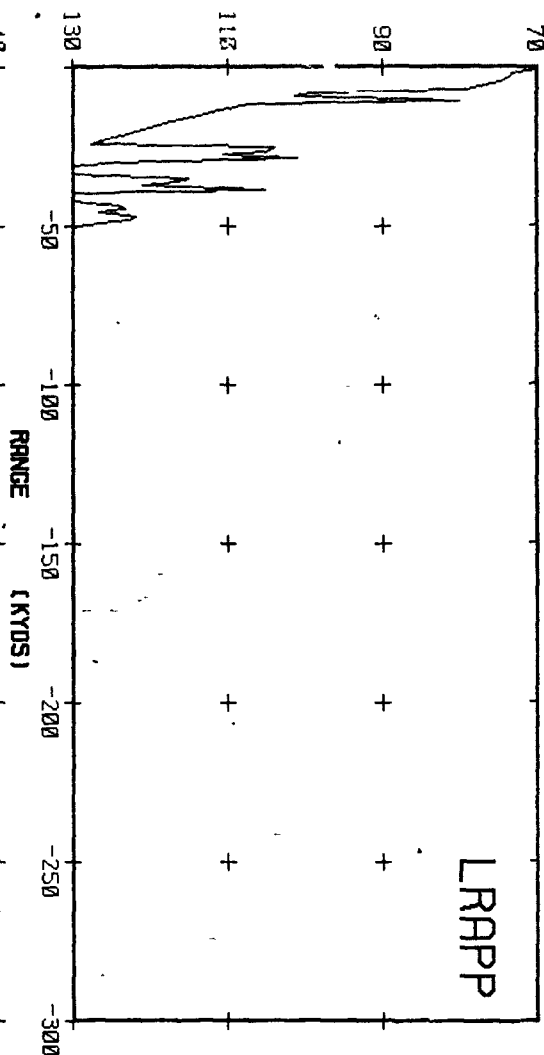


AREA 5 WINTER

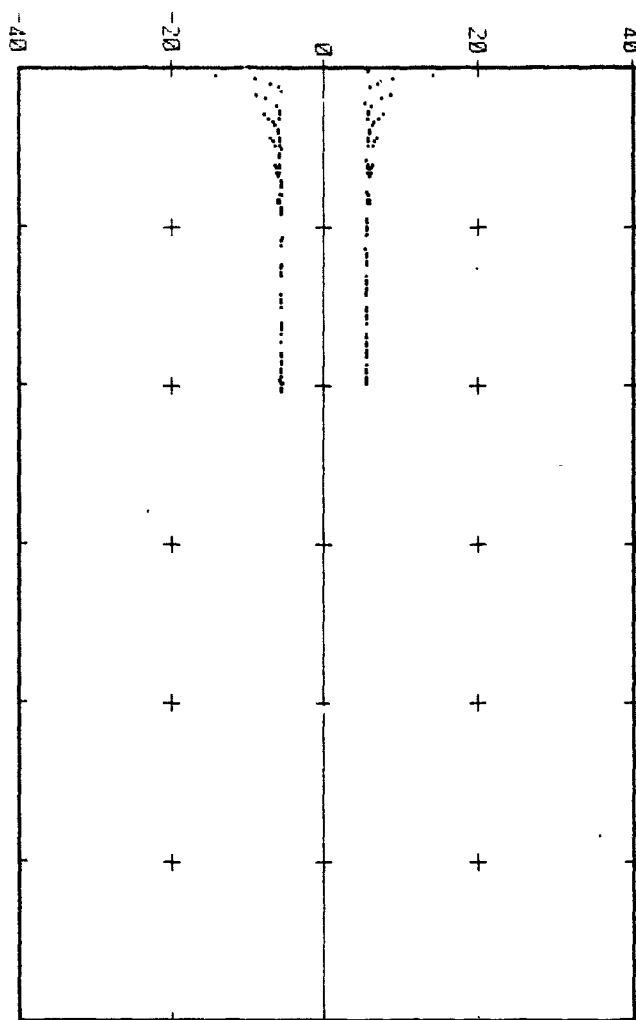
S 20 R 300 F 70

LRAPP

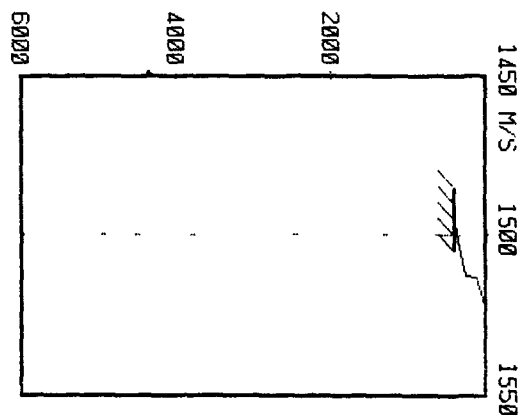
DB LOSS



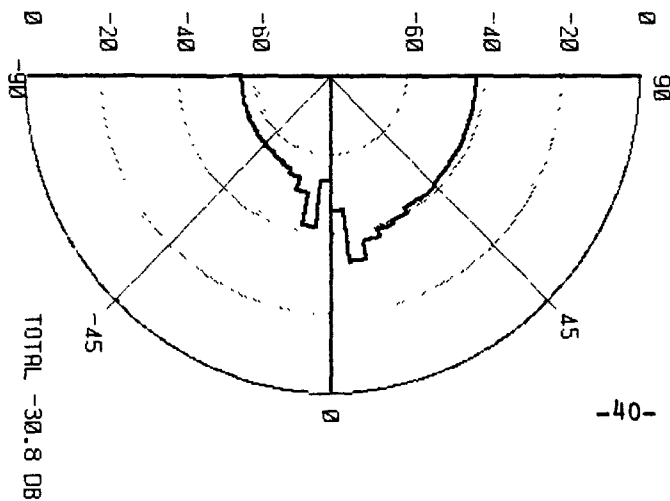
ARRIVAL ANGLE

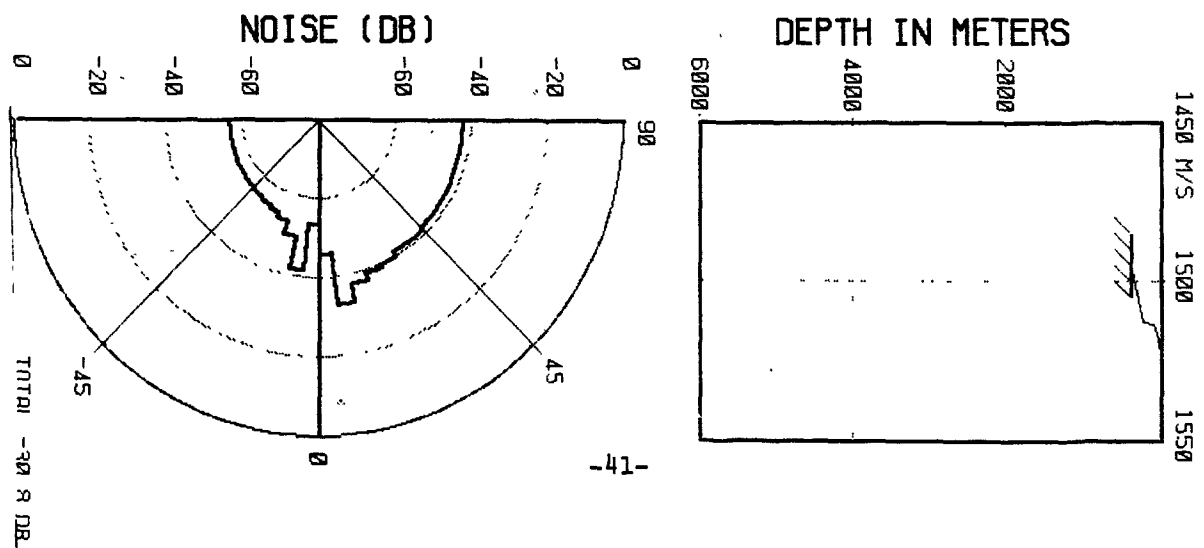
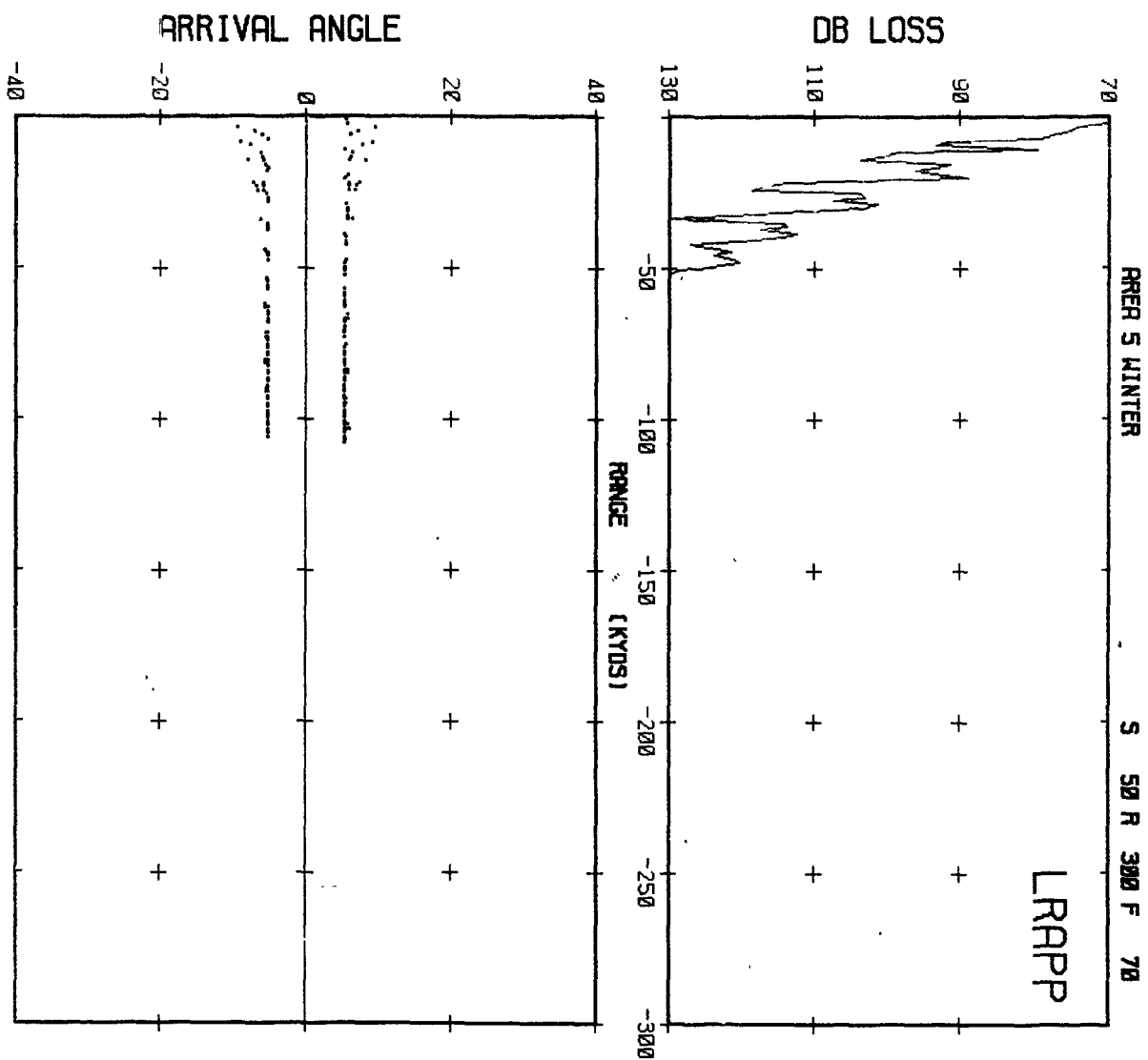


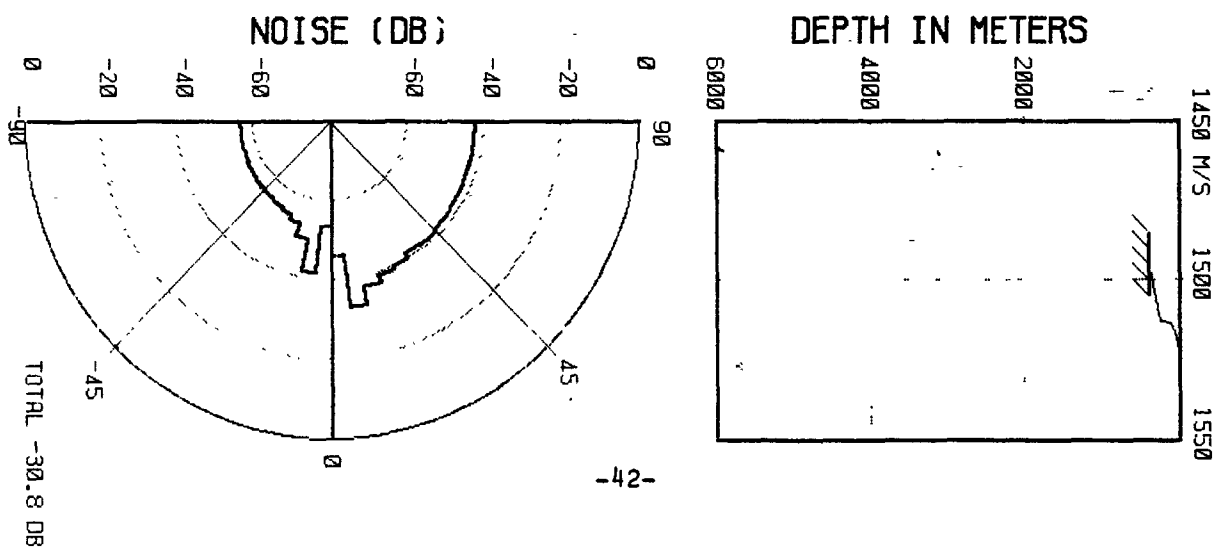
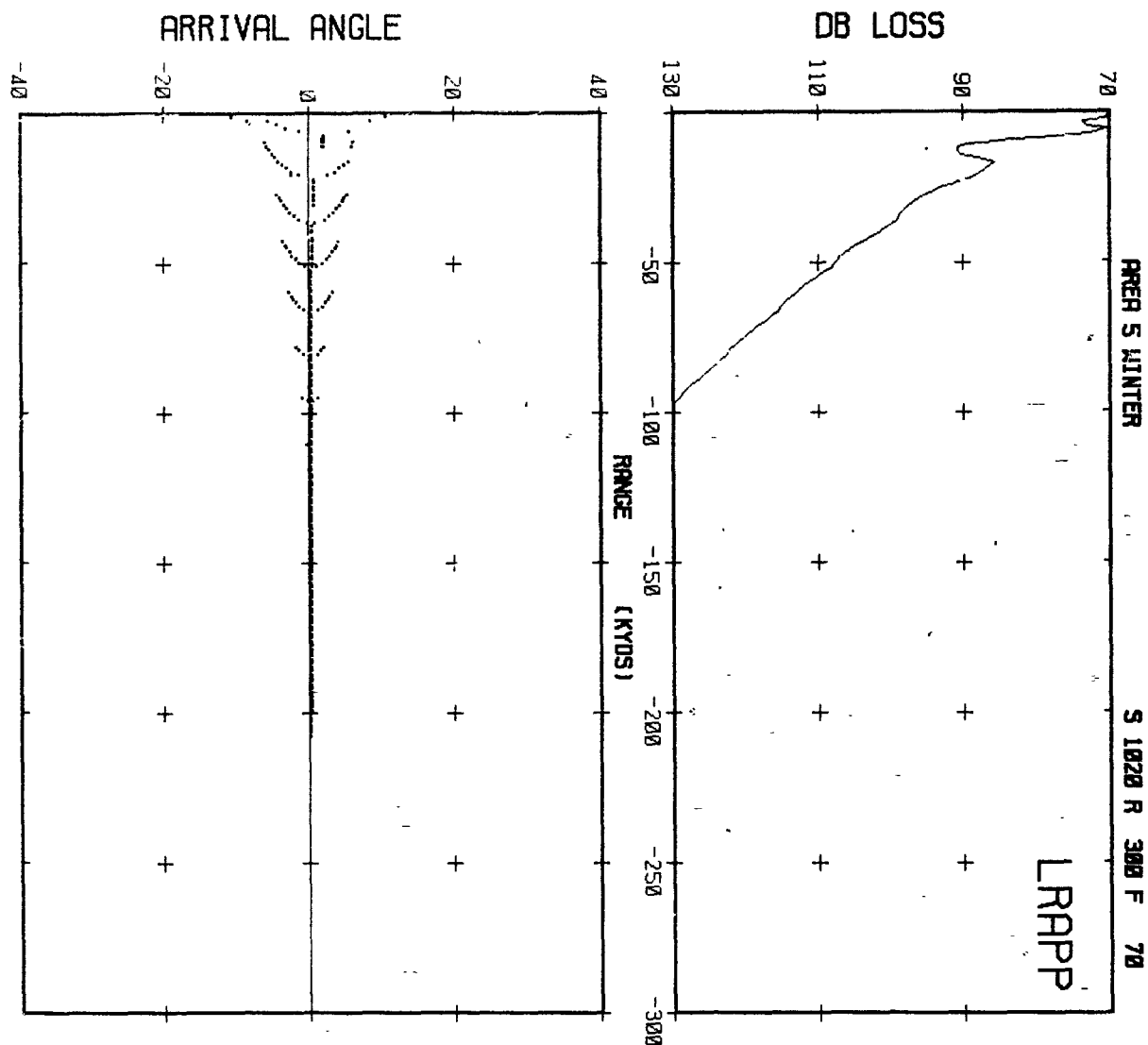
DEPTH IN METERS



NOISE (DB)







I

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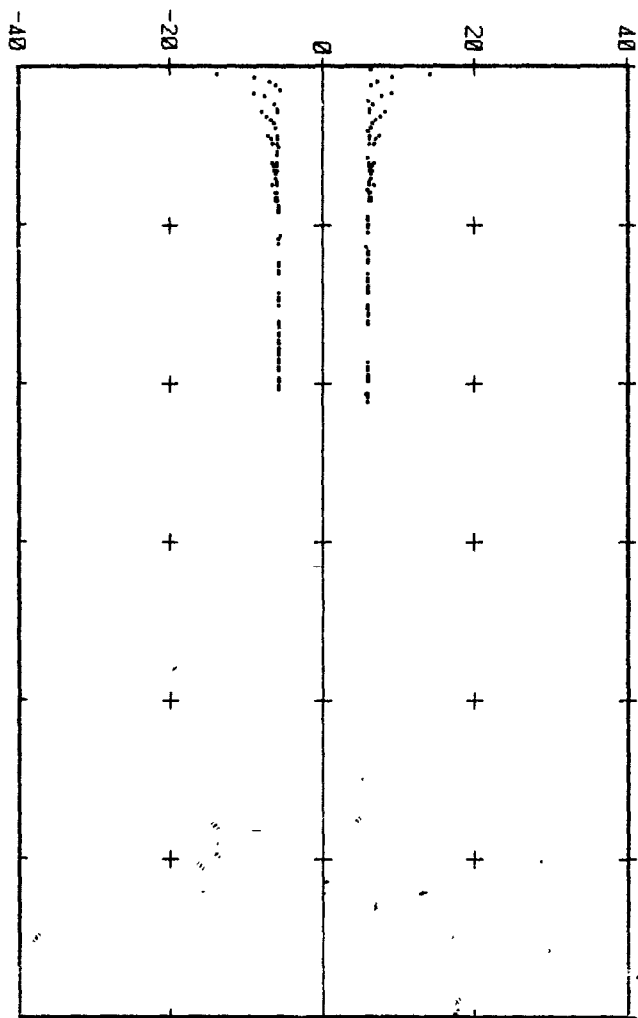
24

25

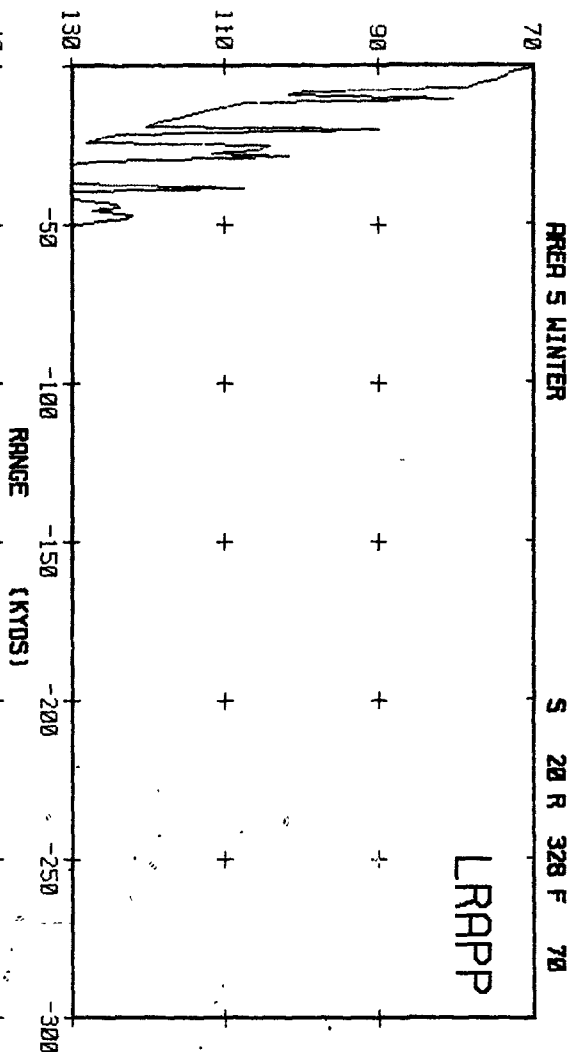
26

27

ARRIVAL ANGLE



DB LOSS

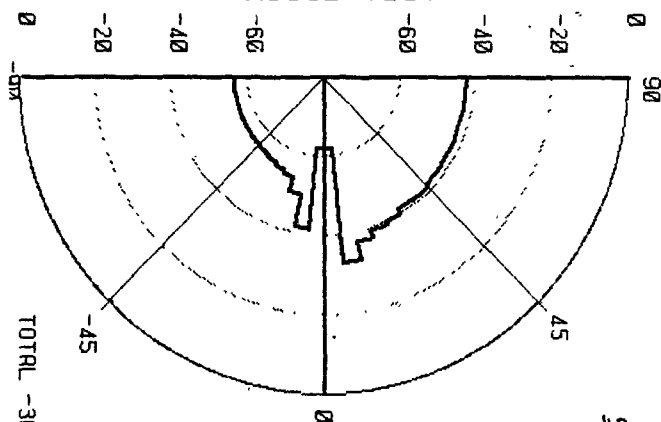


AREA 5 WINTER

S 20 R 328 F 70

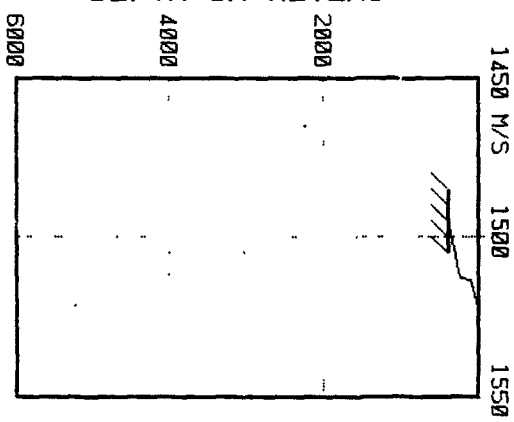
LRAPP

NOISE (DB)



TOTAL -30.8 DB

DEPTH IN METERS



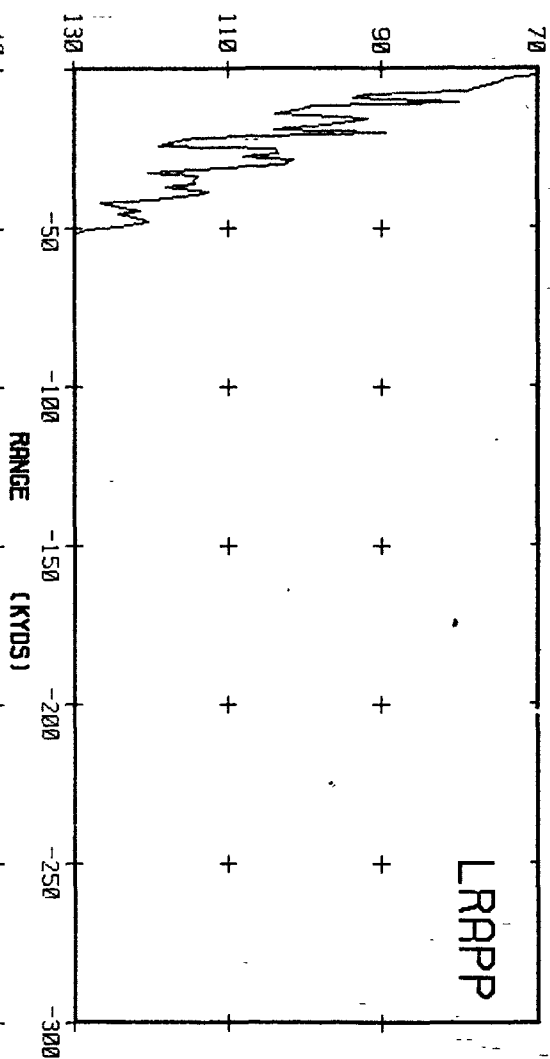
1450 M/S 1500 1550

AREA 5 WINTER

S 50 R 328 F 70

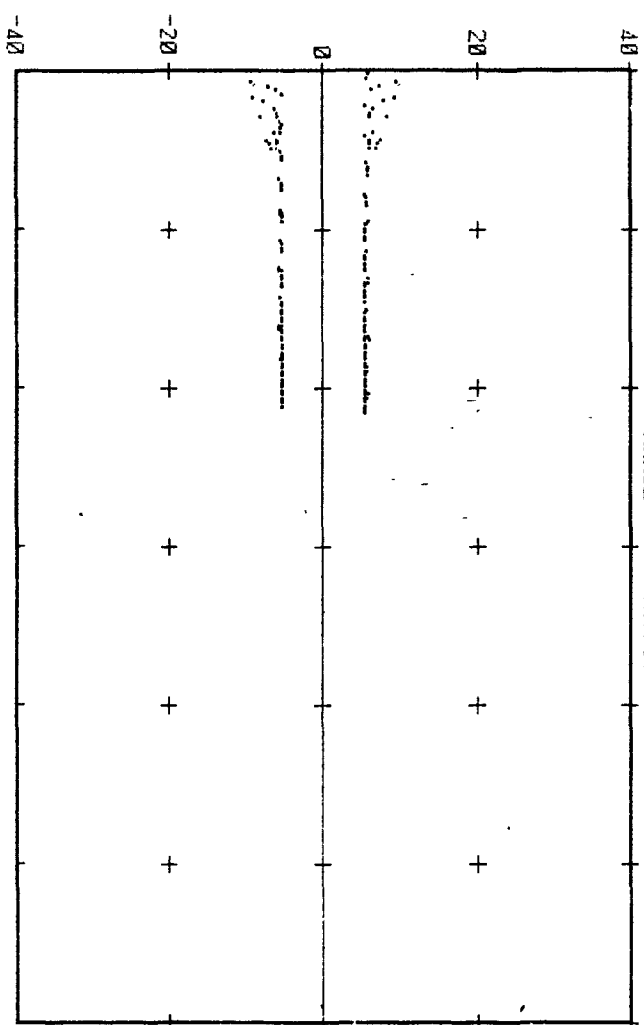
1450 M/S 1500 1550

DB LOSS

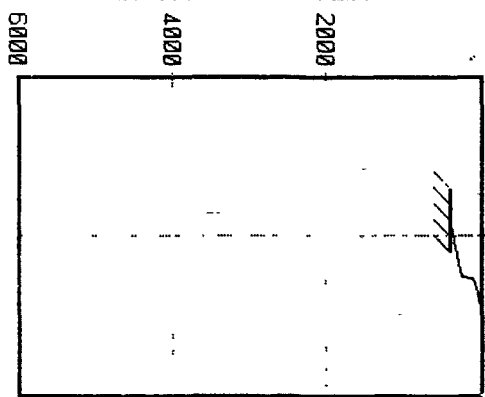


LRAPP

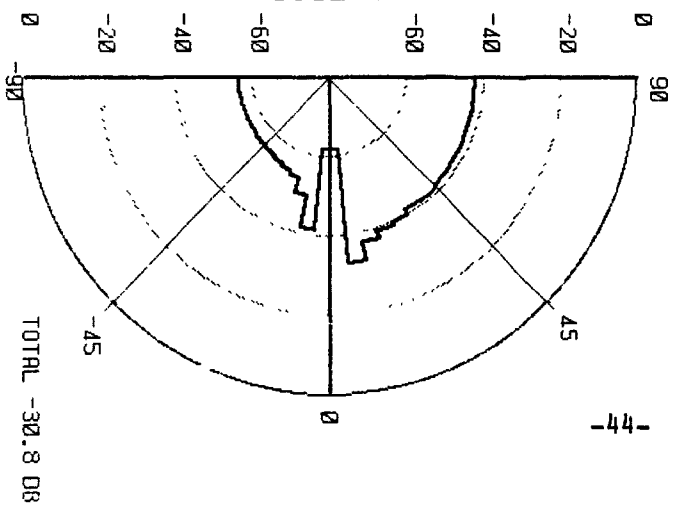
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



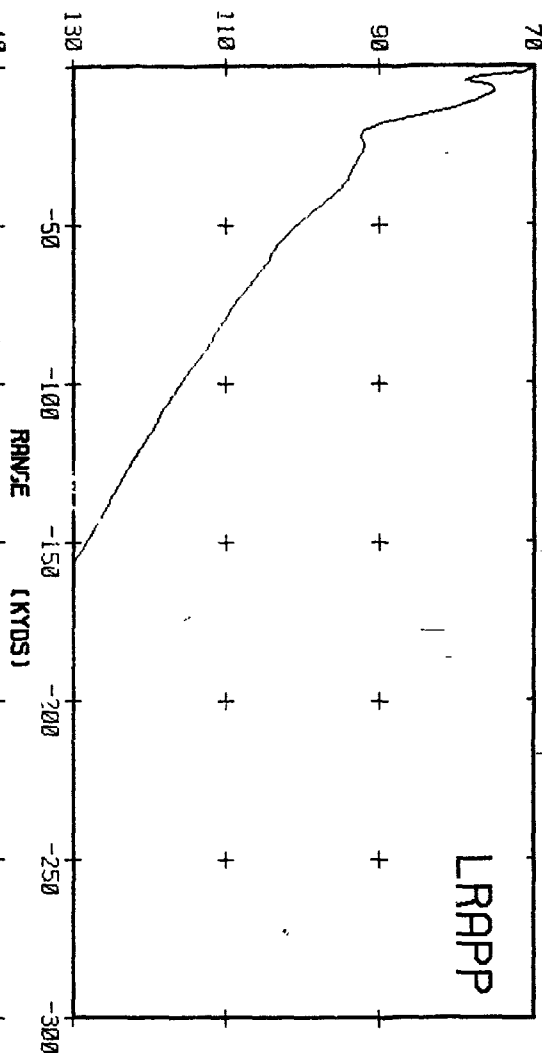
TOTAL -30.8 DB

AREA 5 MINTER

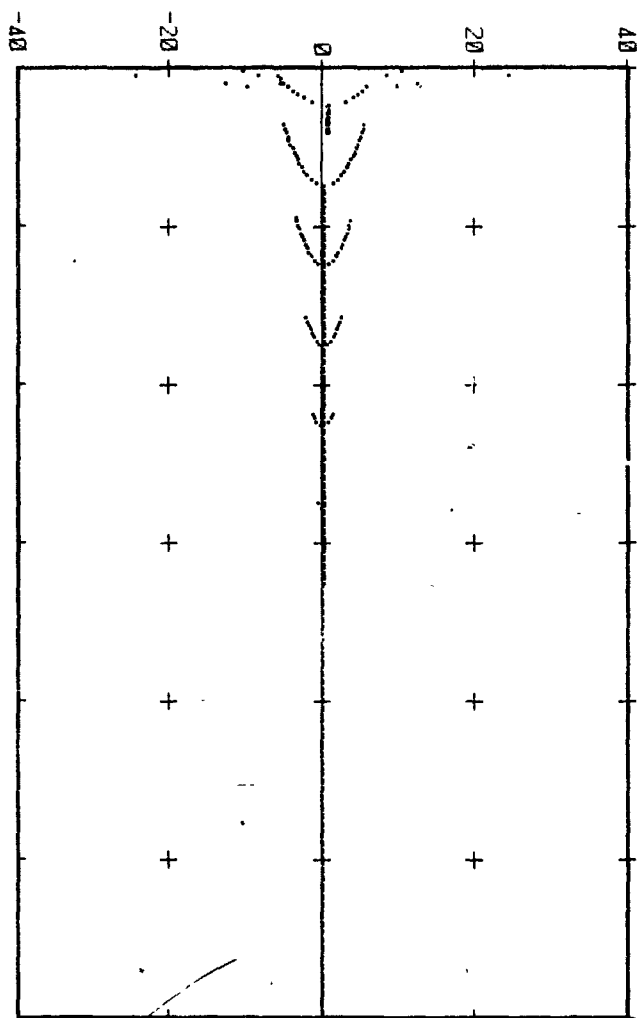
S 1020 R 328 F 70

LRAPP

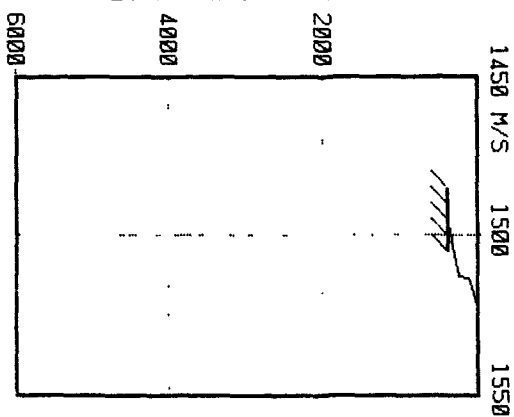
DB LOSS



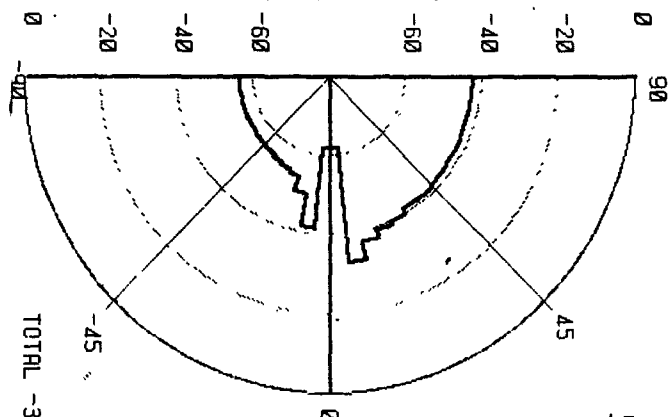
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



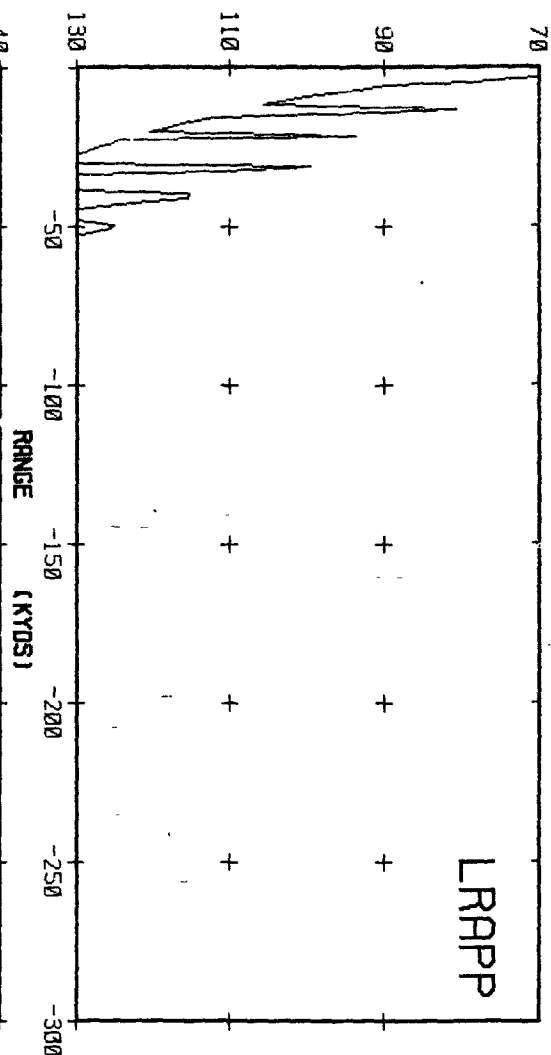
TOTAL -30.8 DB

AREA 5 WINTER

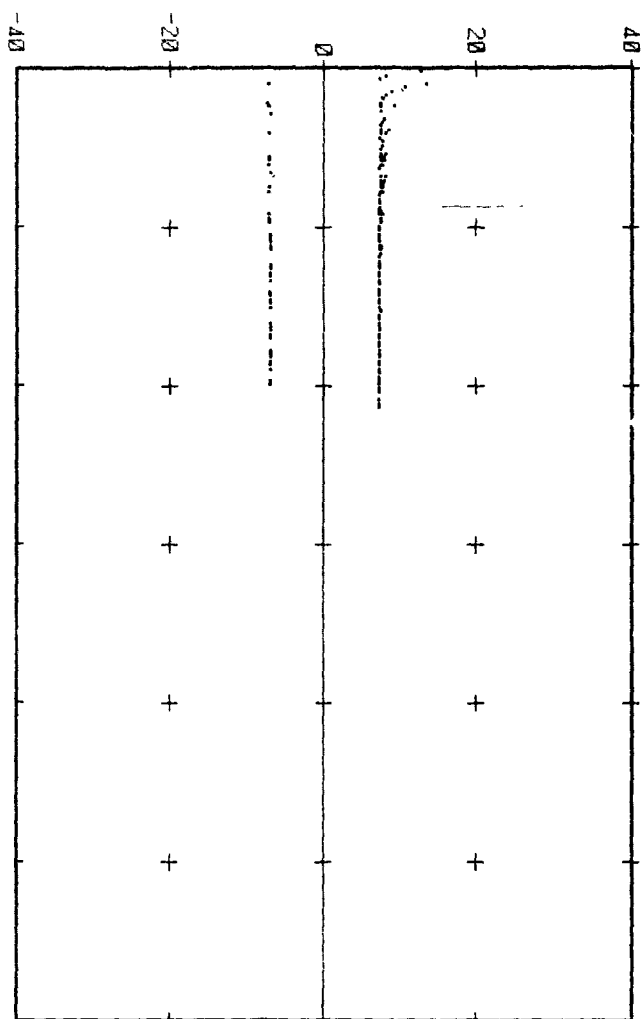
S 20 R 920 F 70

1450 M/S 1500 1550

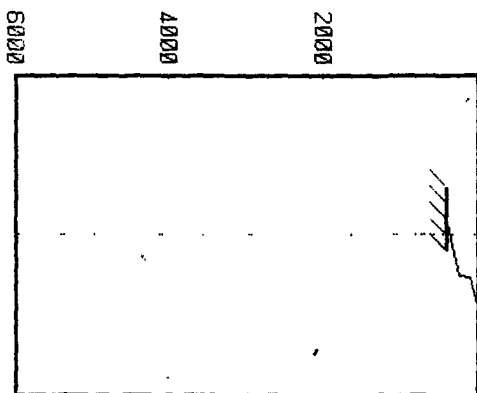
DB LOSS



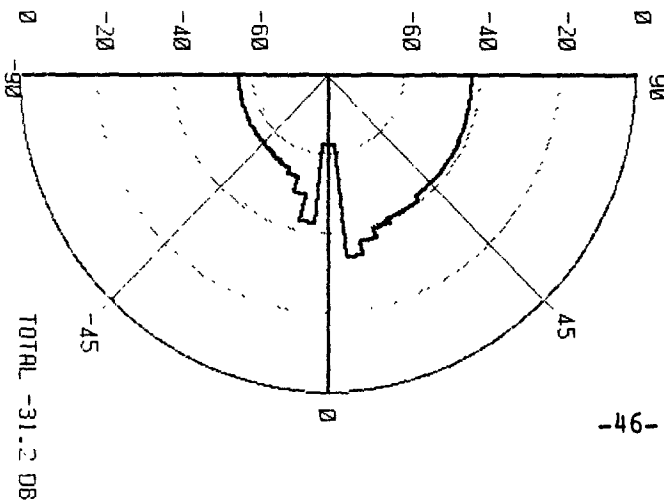
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



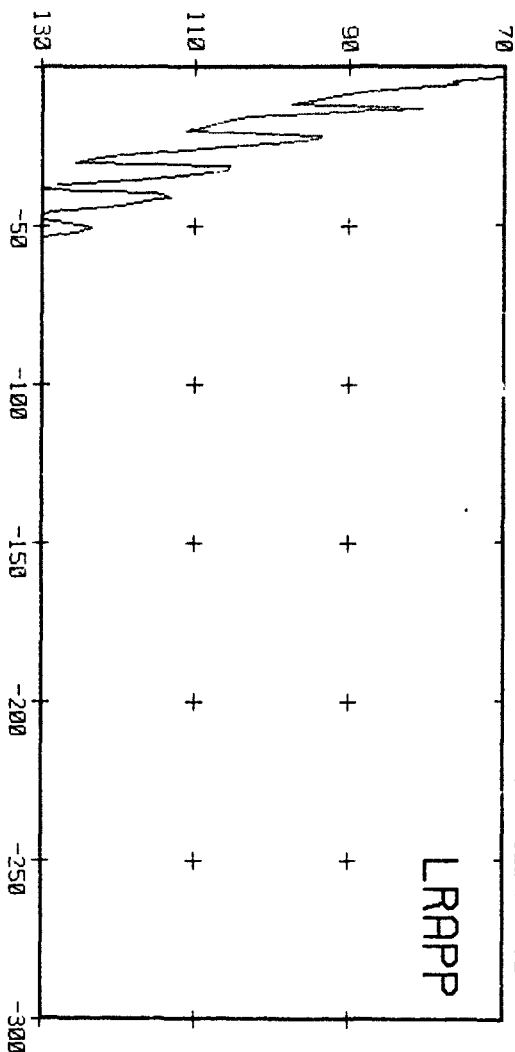
TOTAL -31.2 DB

FREE S WINTER

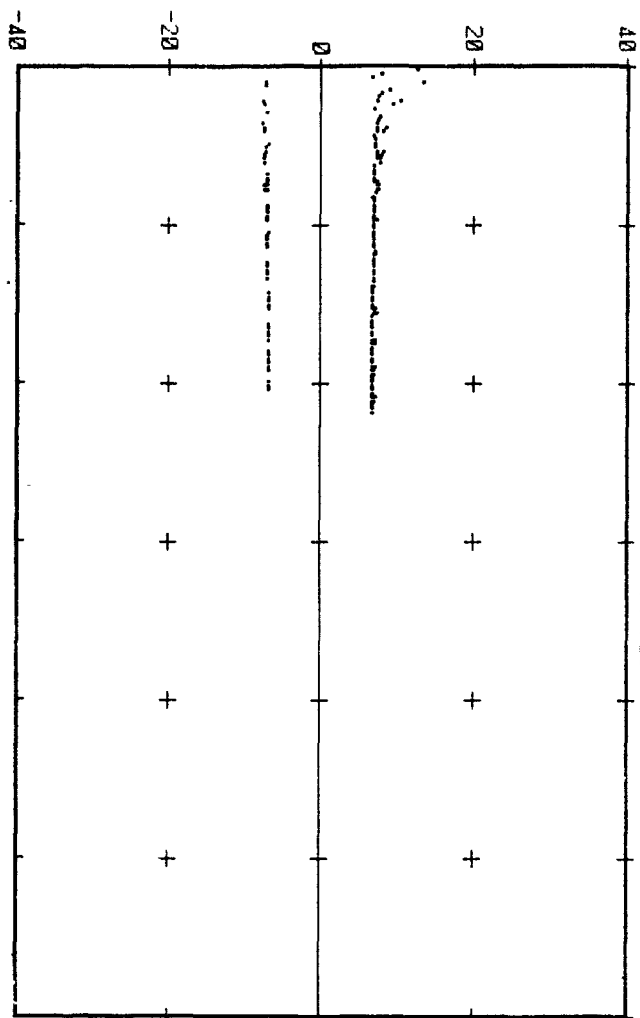
S 50 R 920 F 70

1450 M/S 1500 1550

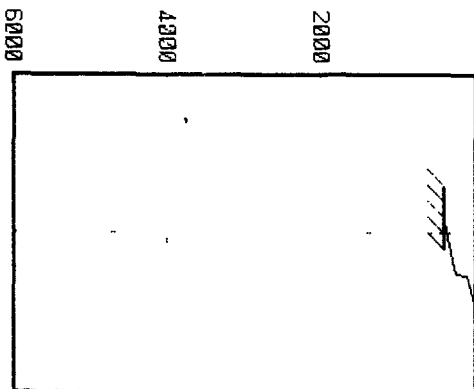
DB LOSS



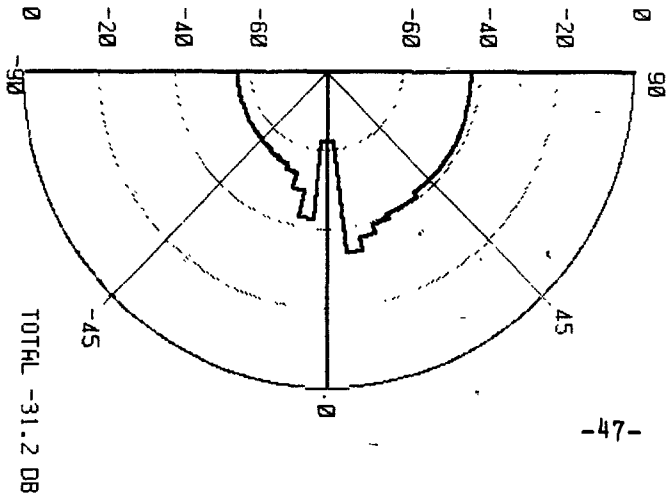
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

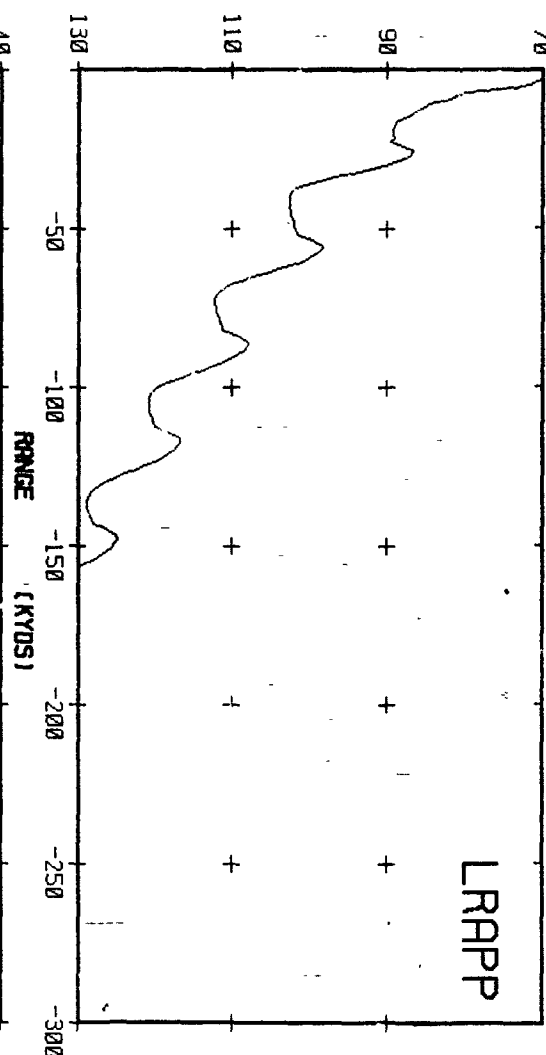


PRER 5 WINTER

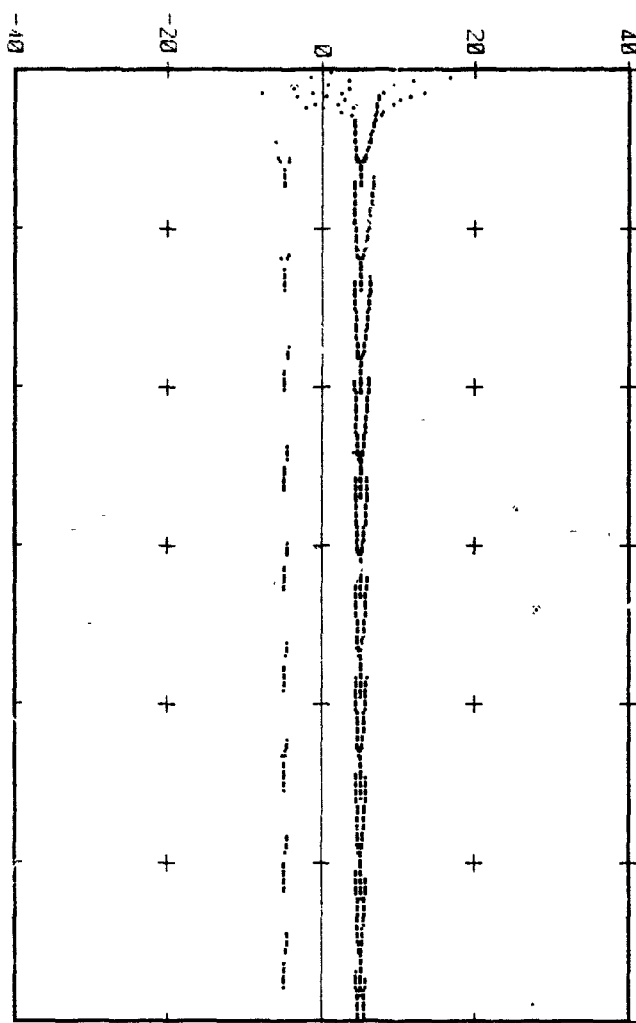
S 1020 R 920 F 70

LRAPP

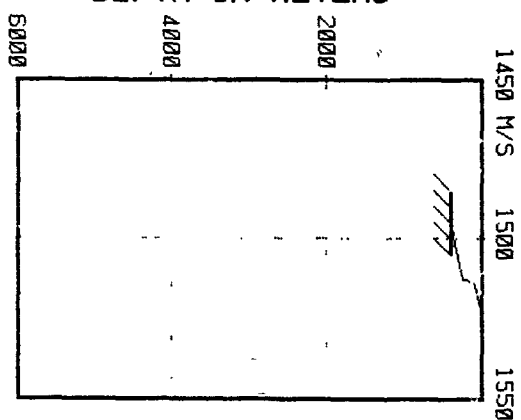
DB LOSS



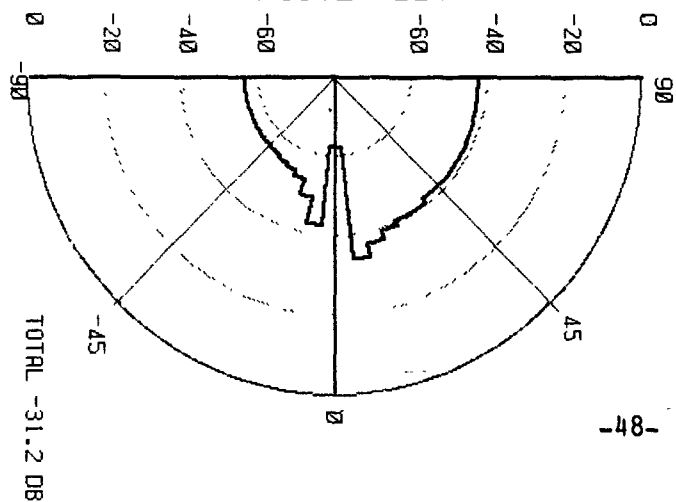
ARRIVAL ANGLE

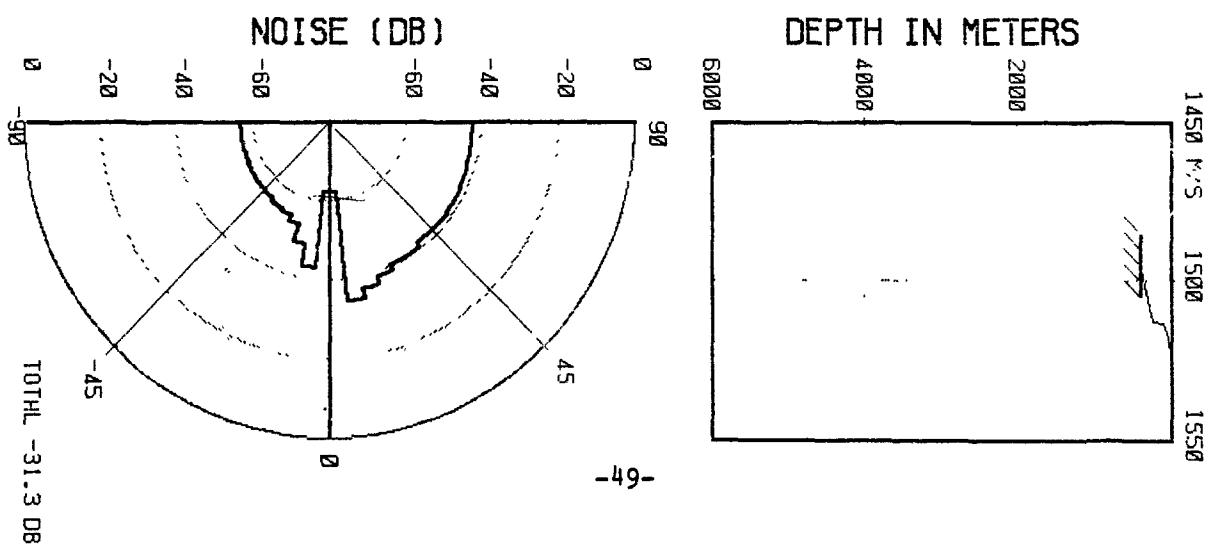
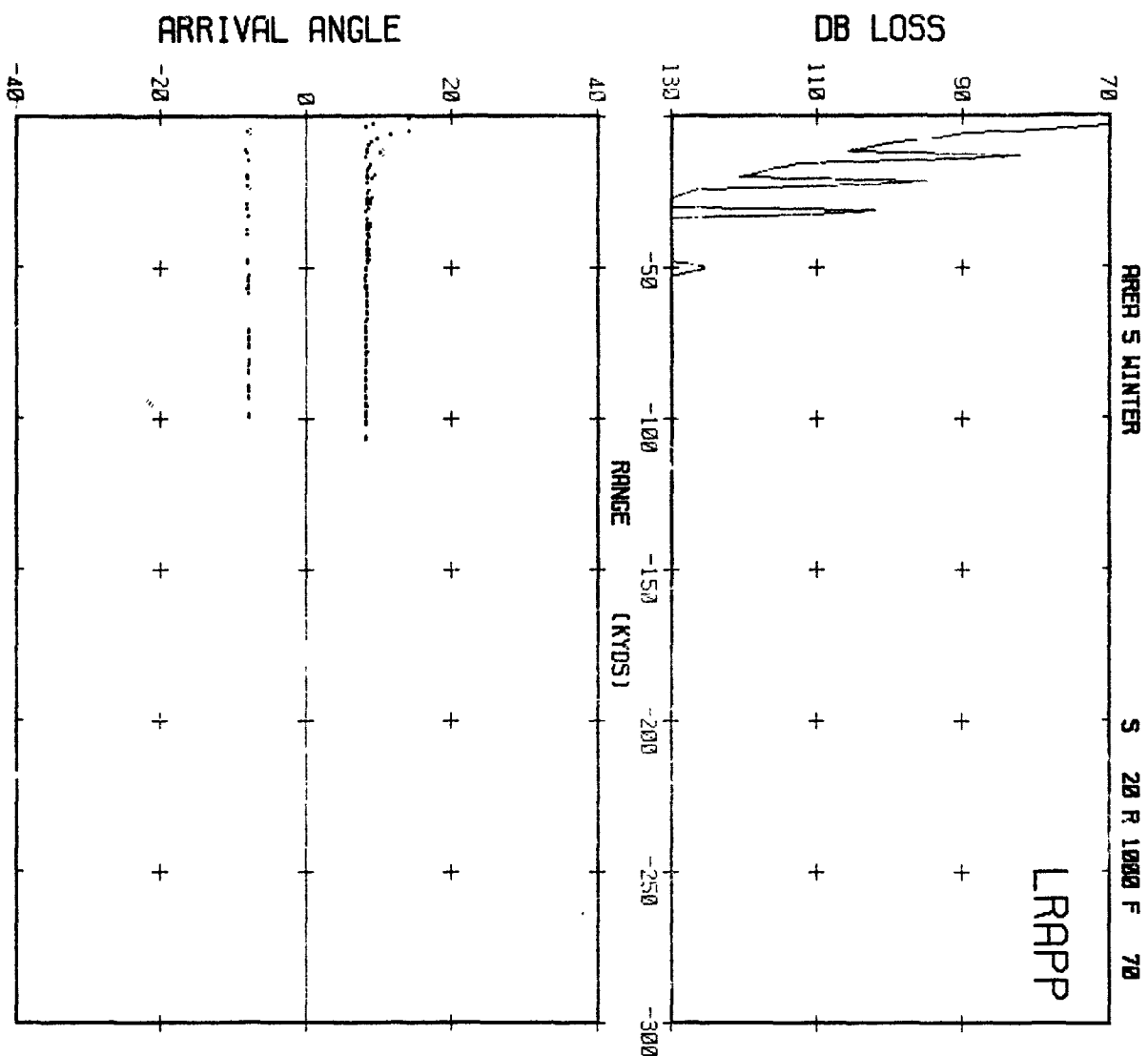


DEPTH IN METERS



NOISE (DB)



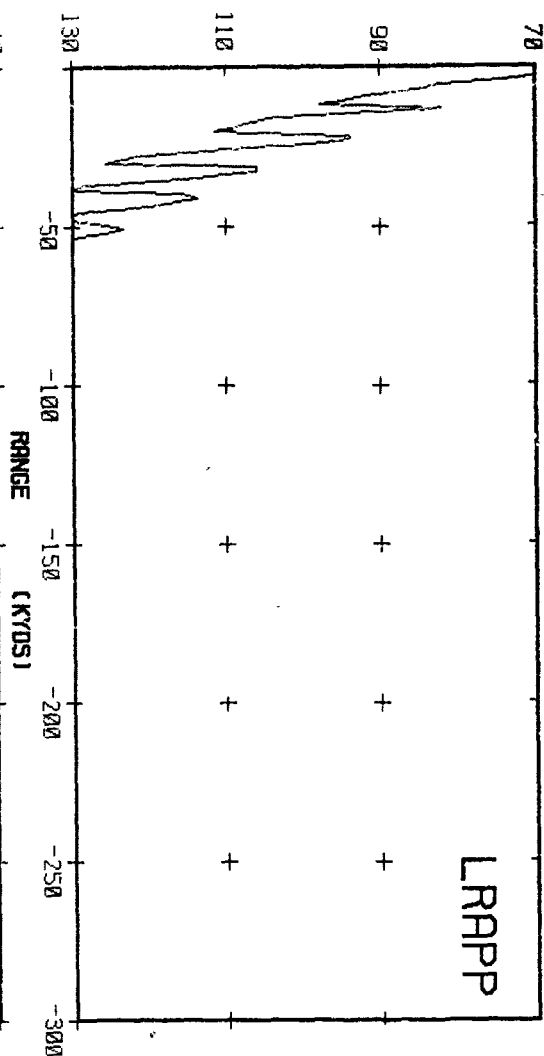


AREA 5 WINTER

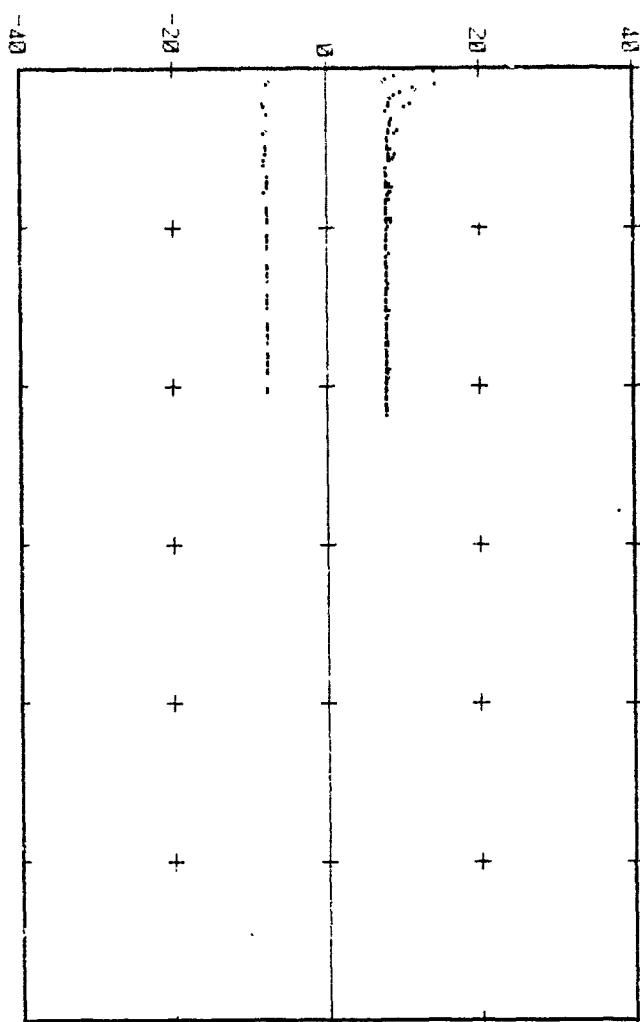
S 50 R 1000 F 70

LRAPP

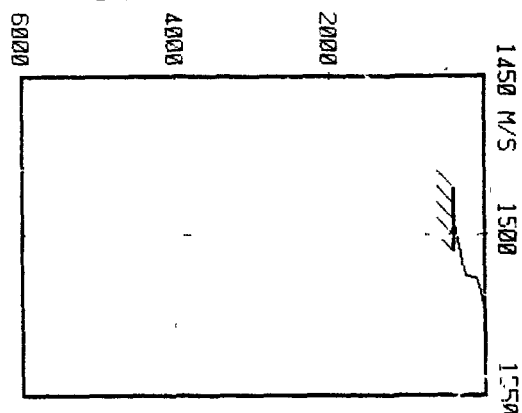
DB LOSS



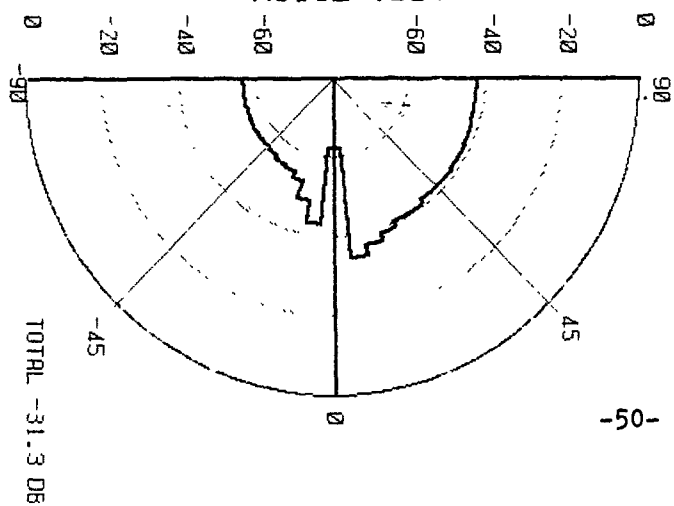
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



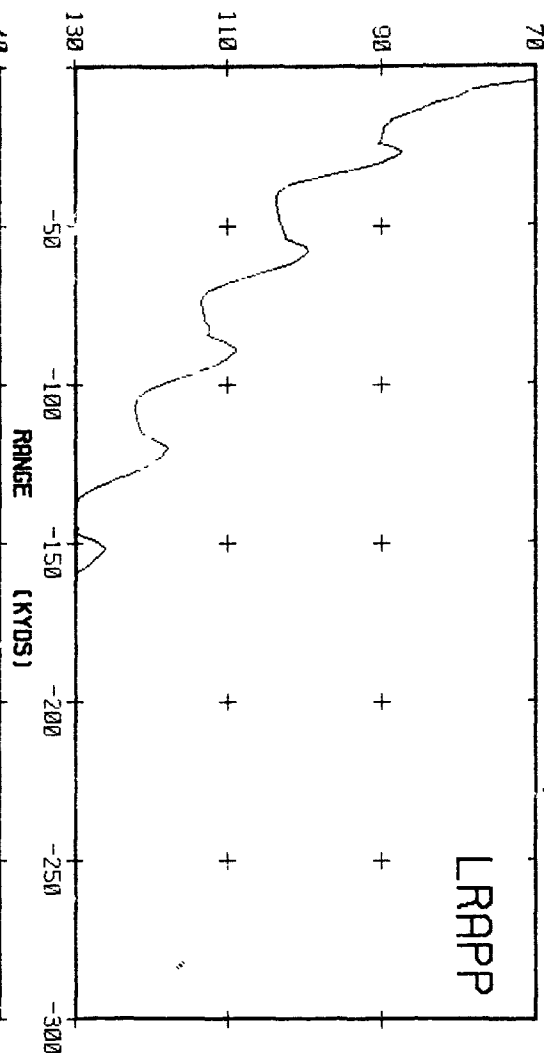
TOTAL -31.3 DB

AREA 5 WINTER

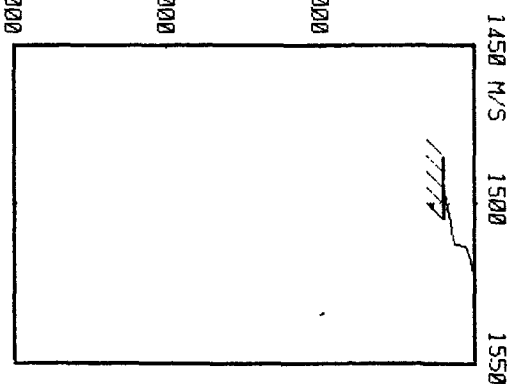
S 1020 R 1000 F 70

LRAPP

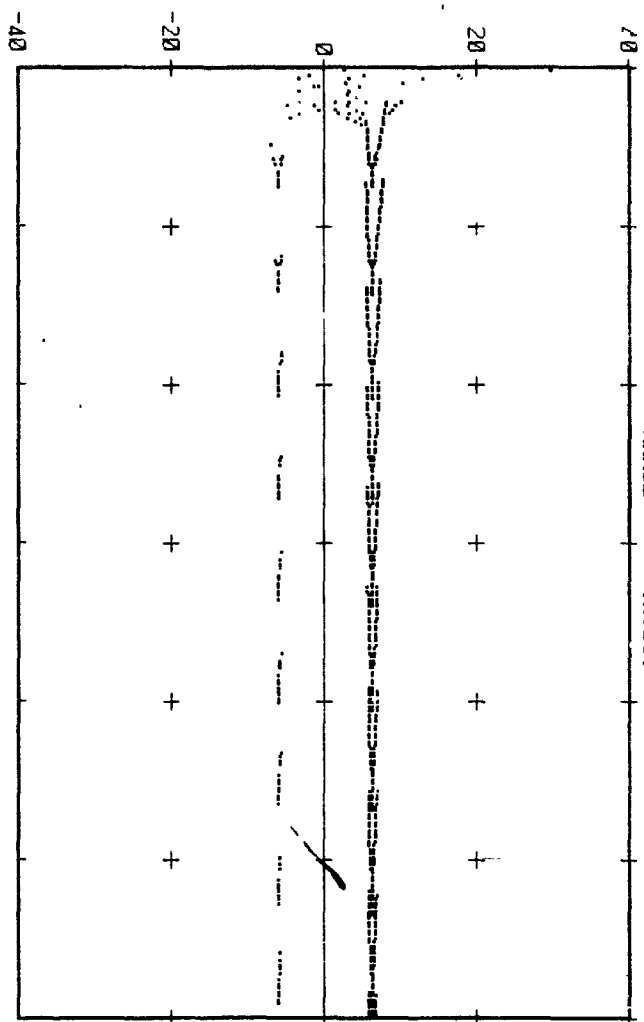
DB LOSS



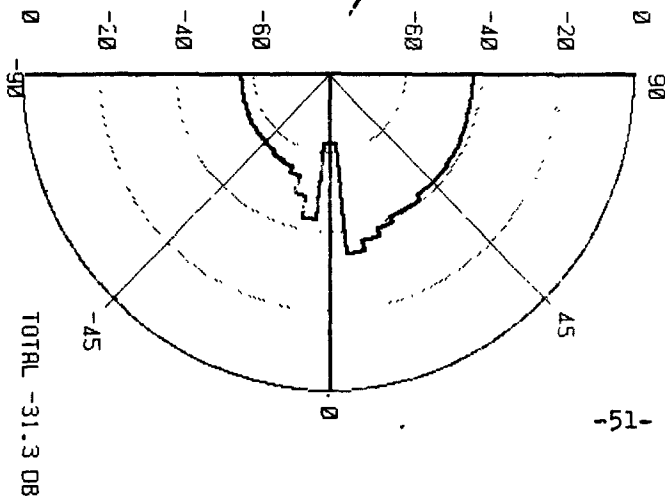
DEPTH IN METERS



ARRIVAL ANGLE



NOISE (DB)



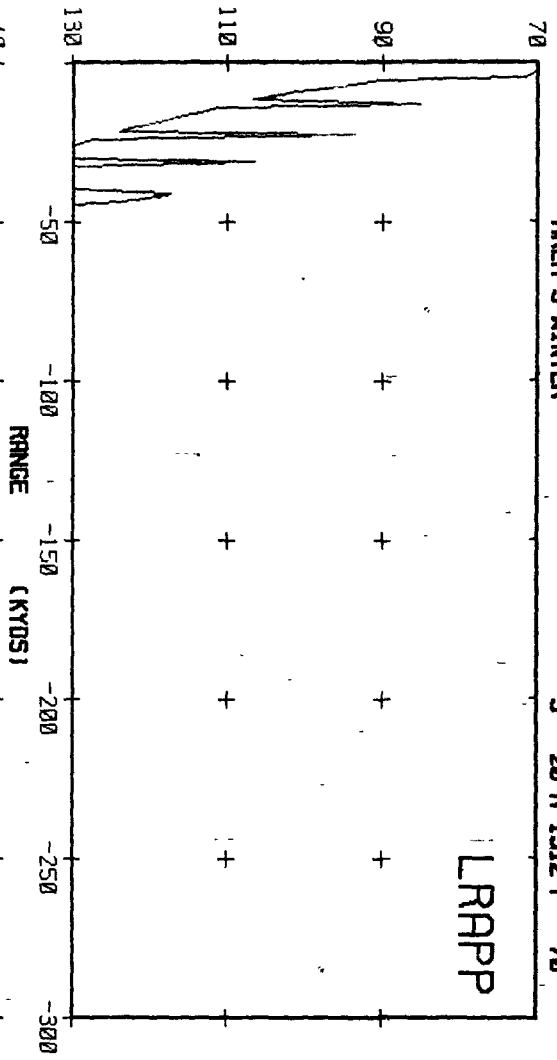
TOTAL -31.3 DB

PRER 5 WINTER

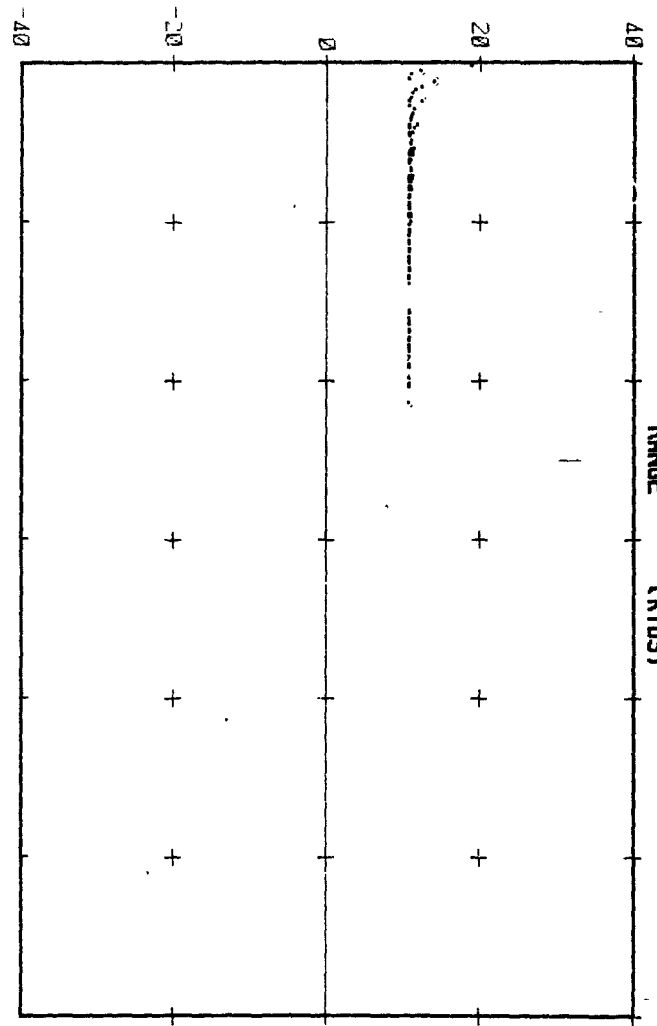
S 20 R 1312 F 70

1450 M/S 1500 1550

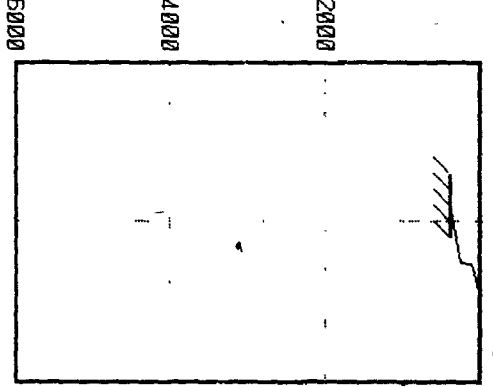
DB LOSS



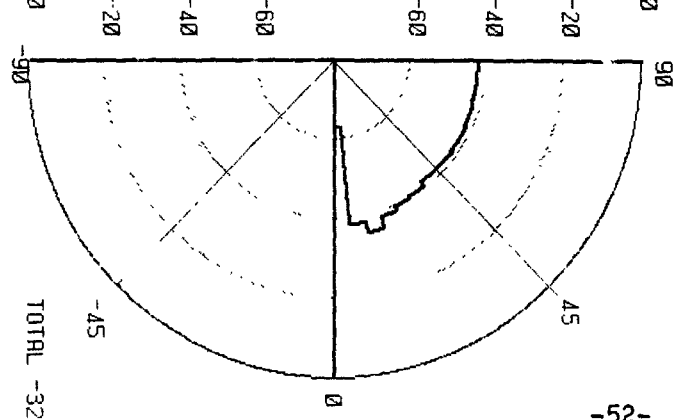
ARRIVAL ANGLE



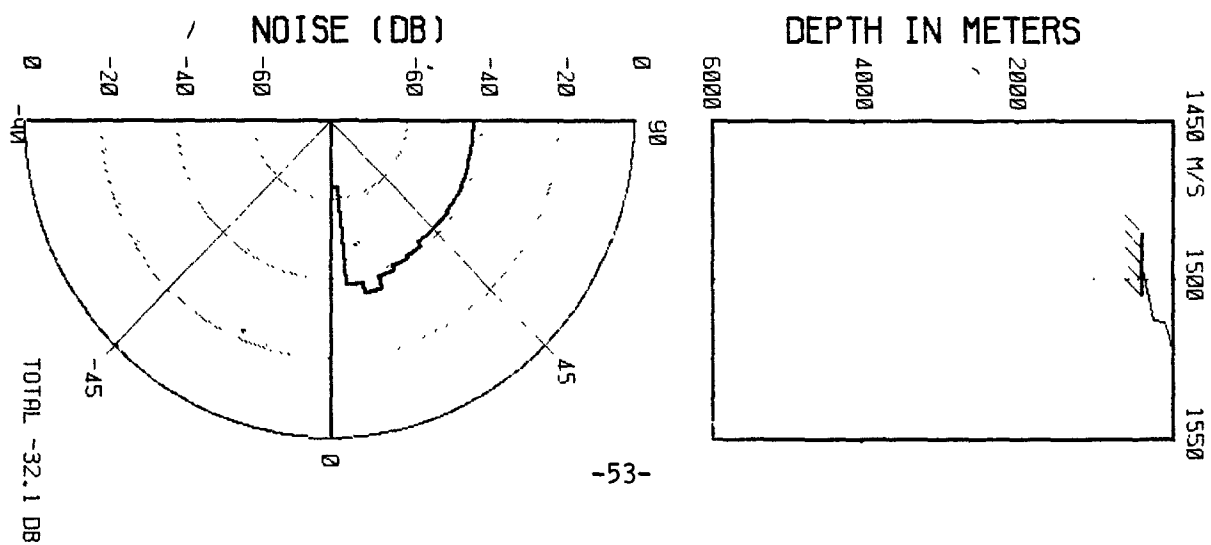
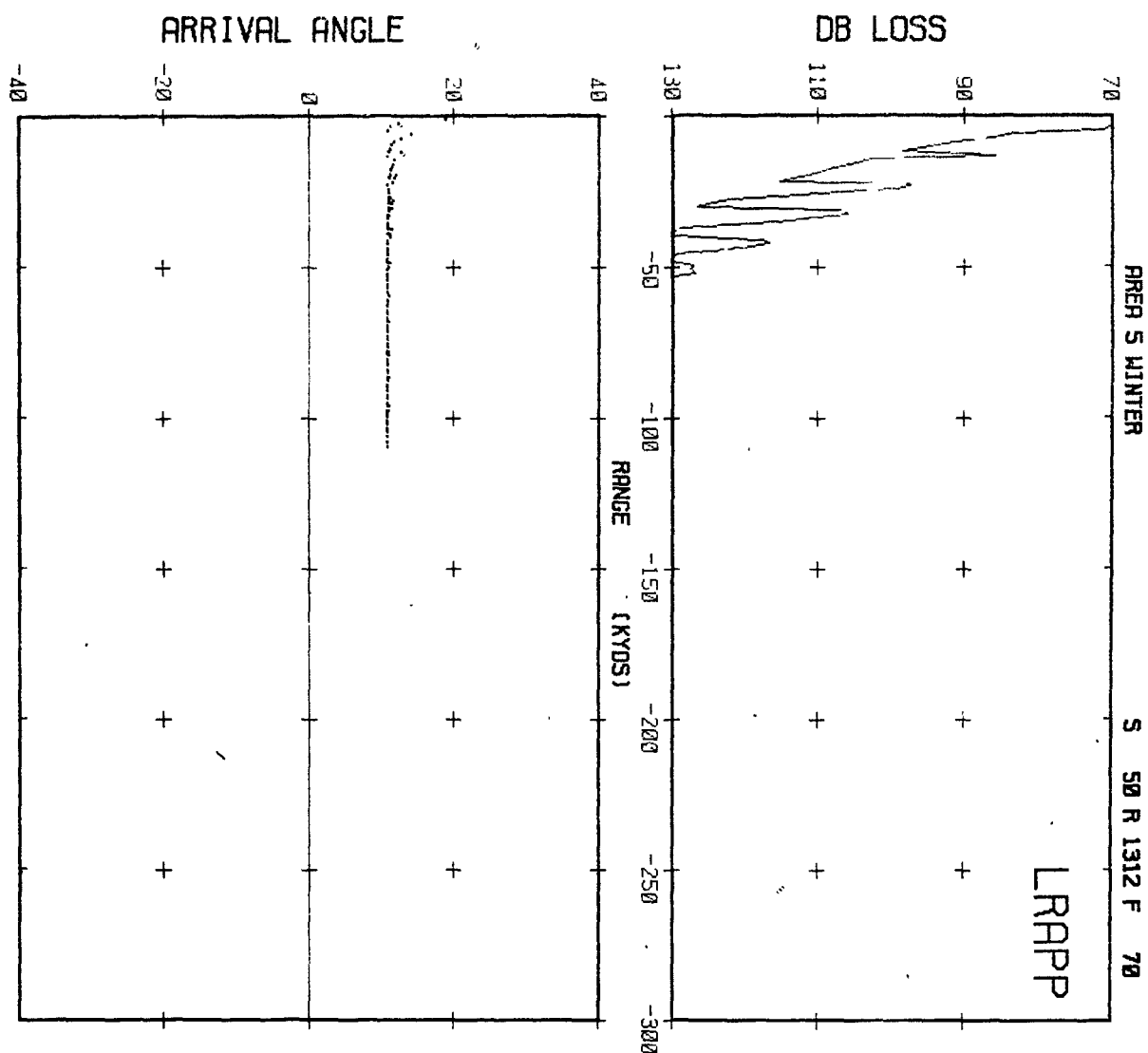
DEPTH IN METERS



NOISE (DB)



TOTAL -32.1 DB

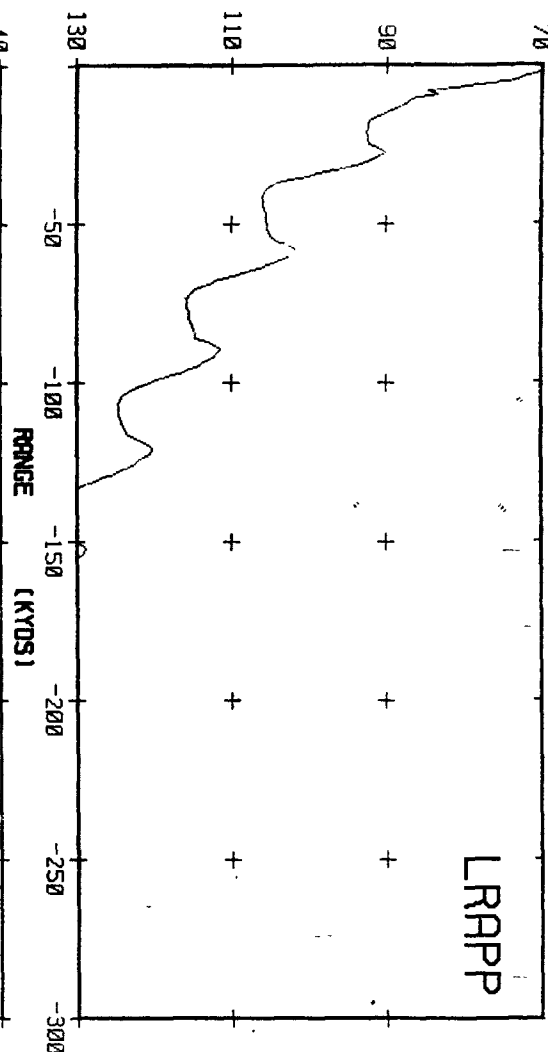


AREA 5 WINTER

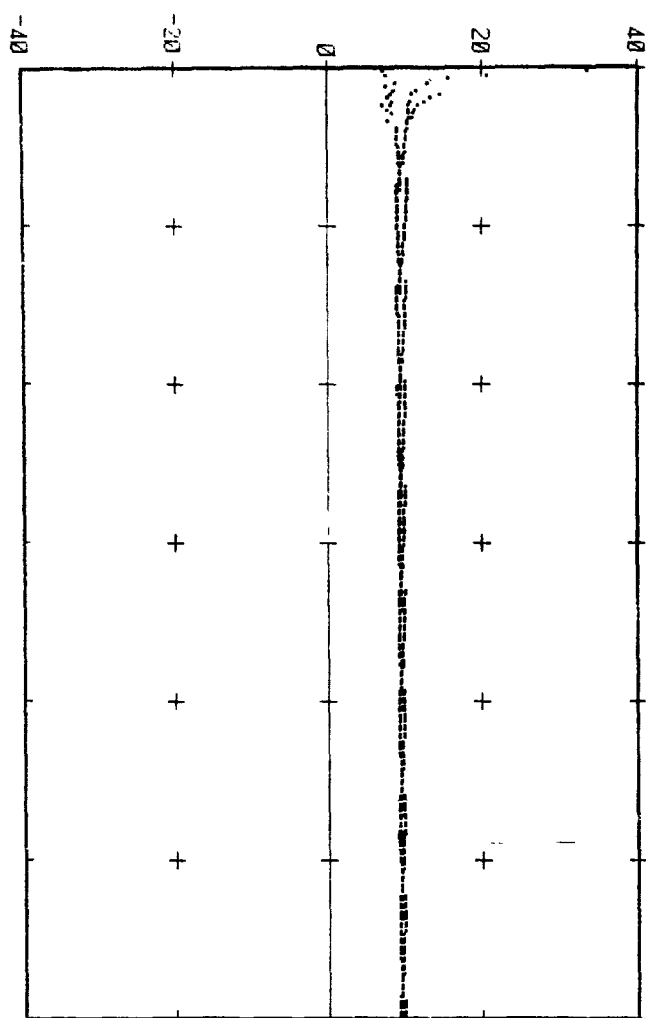
S 1020 R 1312 F 70

LRAPP

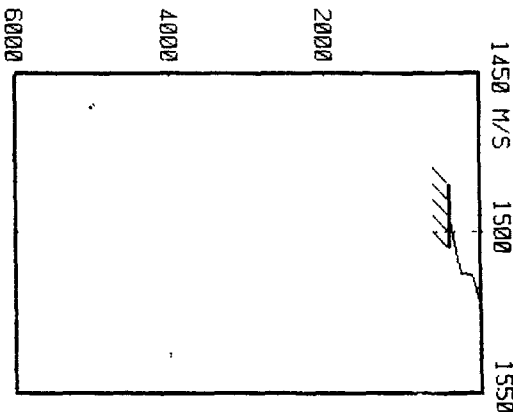
DB LOSS



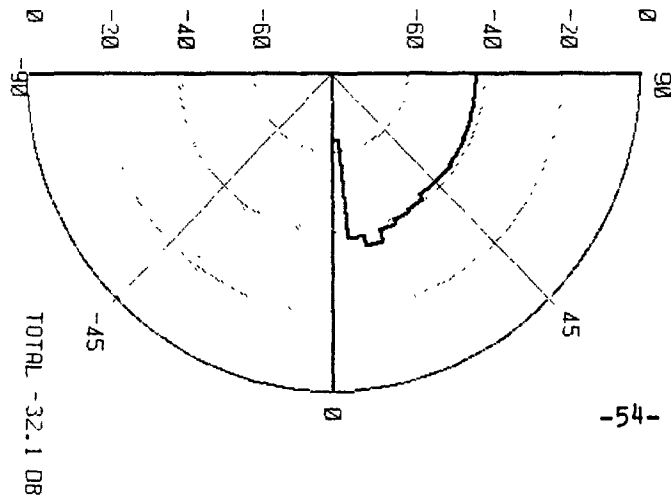
ARRIVAL ANGLE



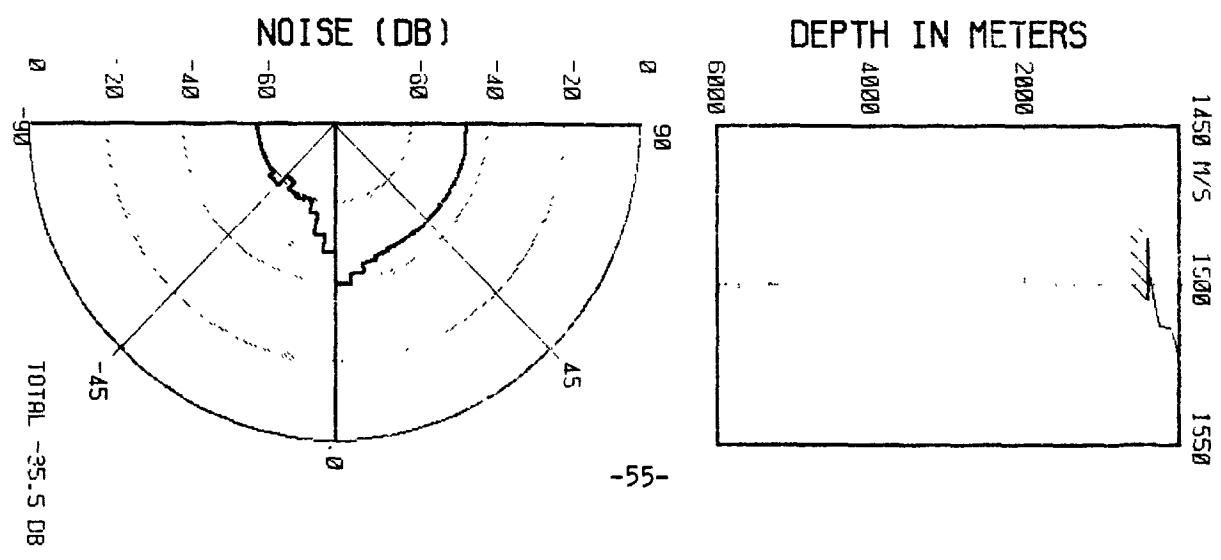
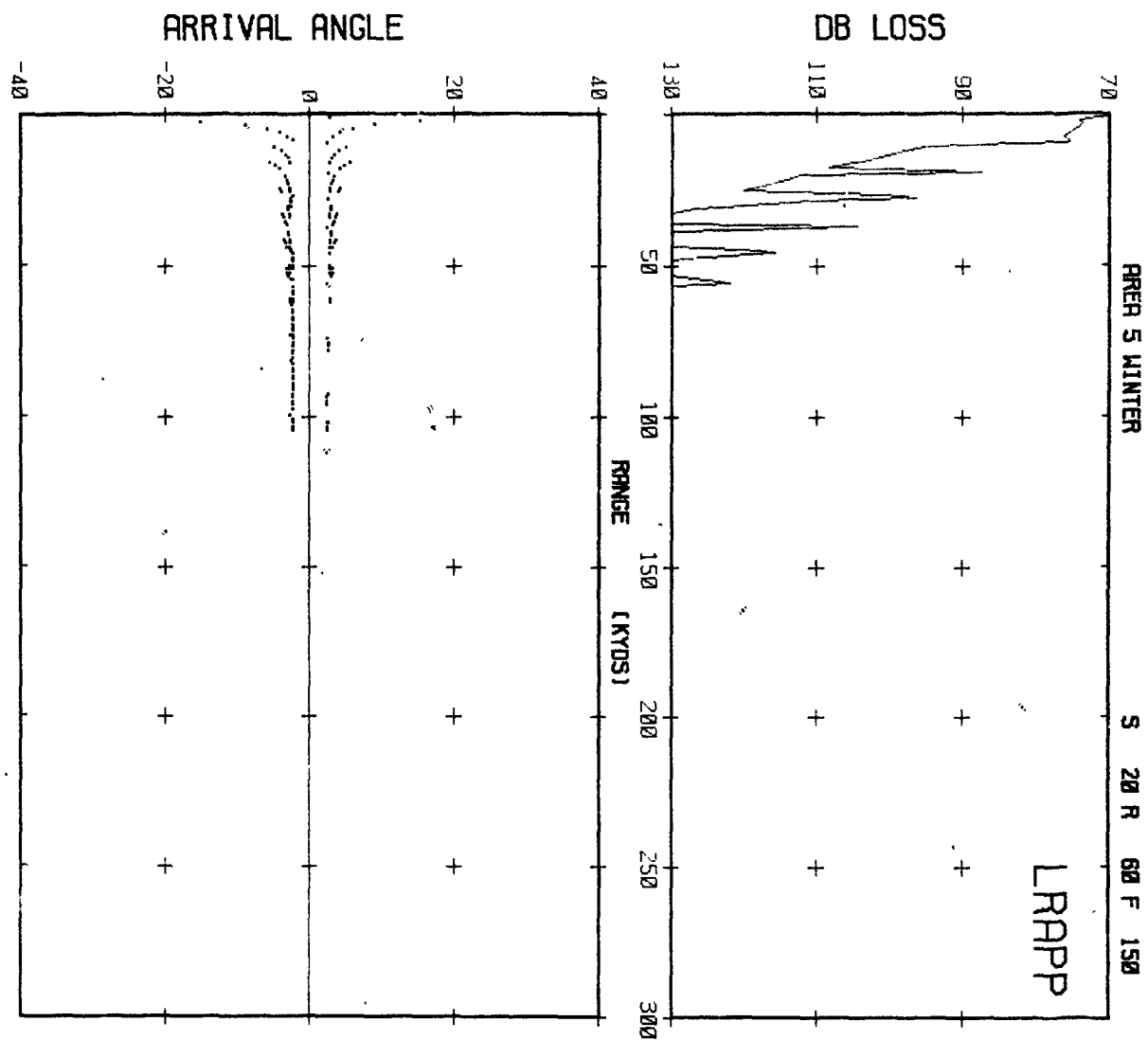
DEPTH IN METERS

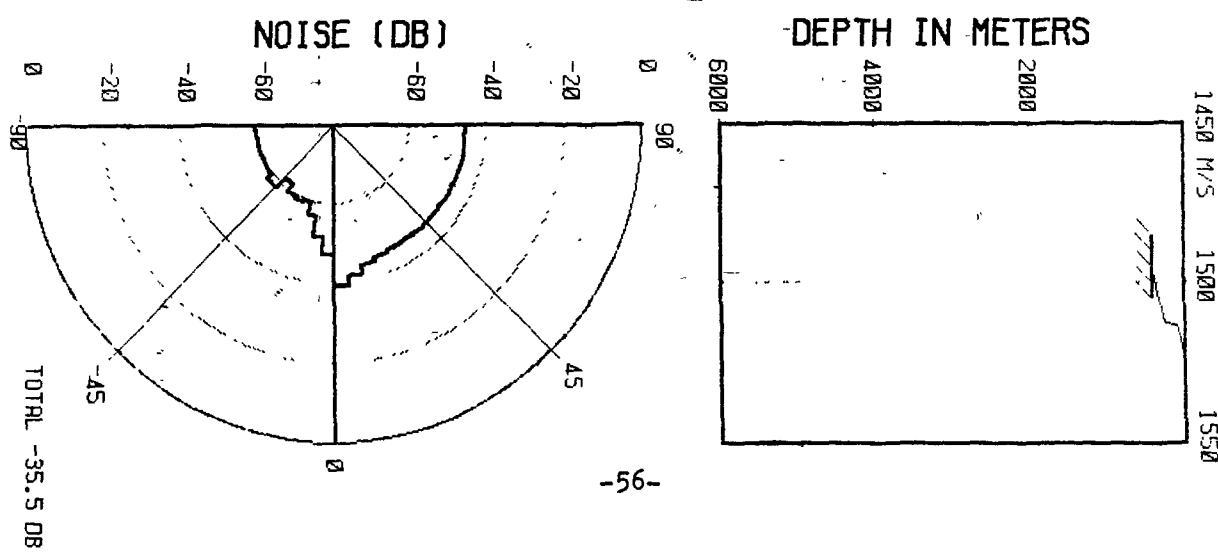
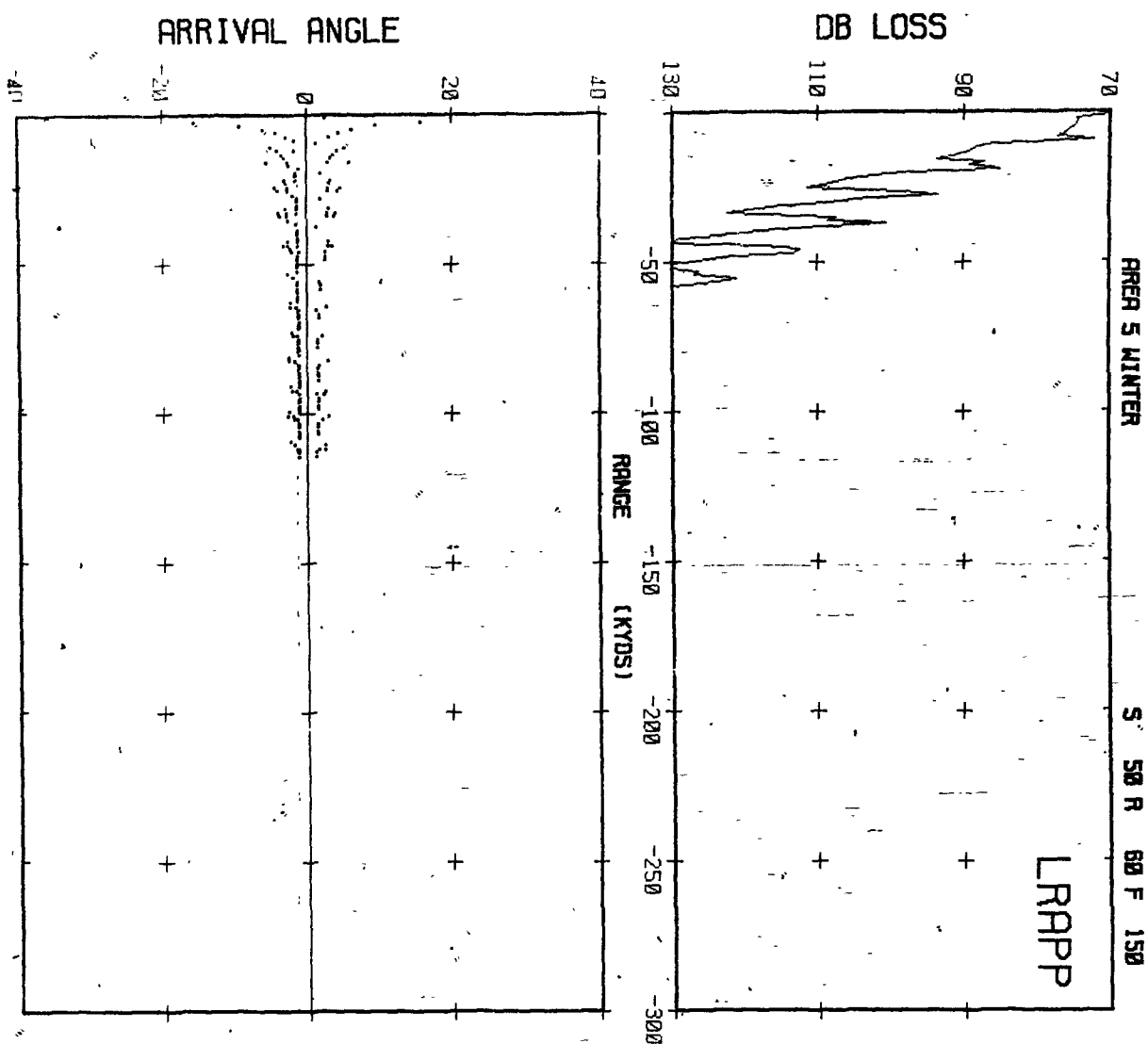


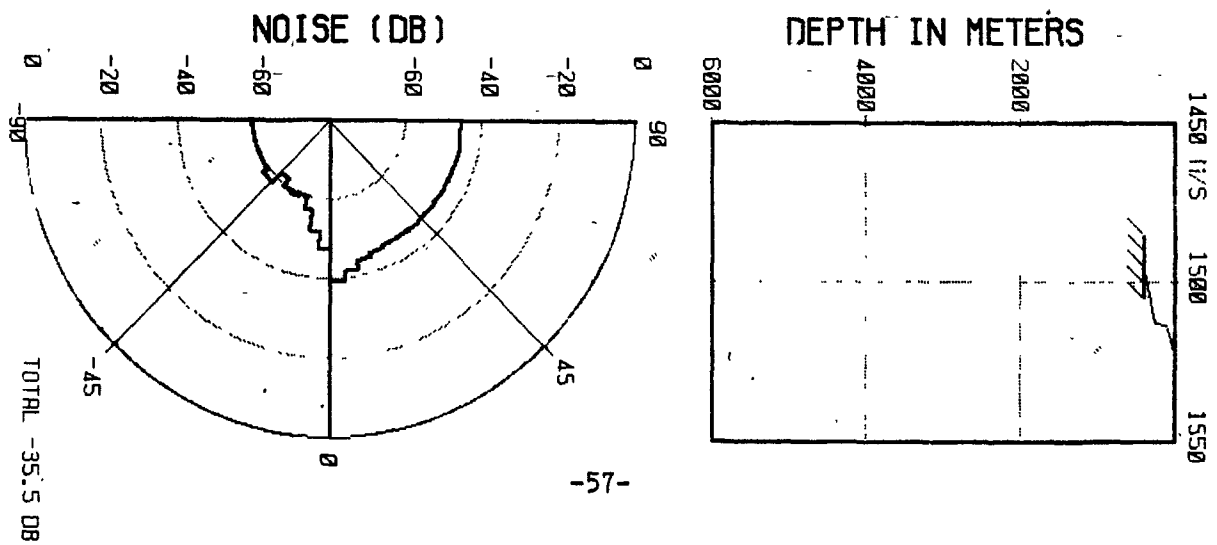
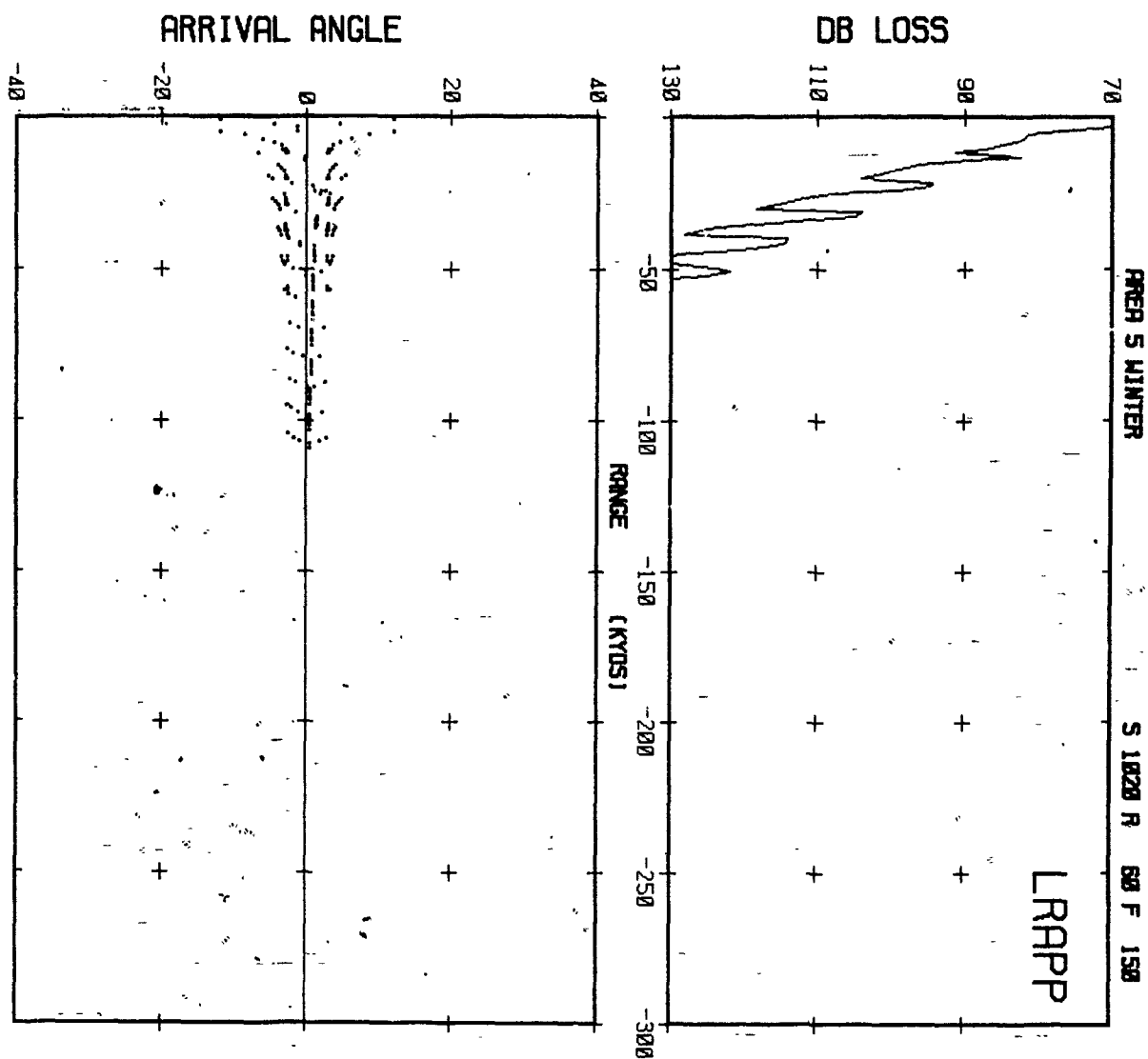
NOISE (DB)



TOTAL -32.1 DB





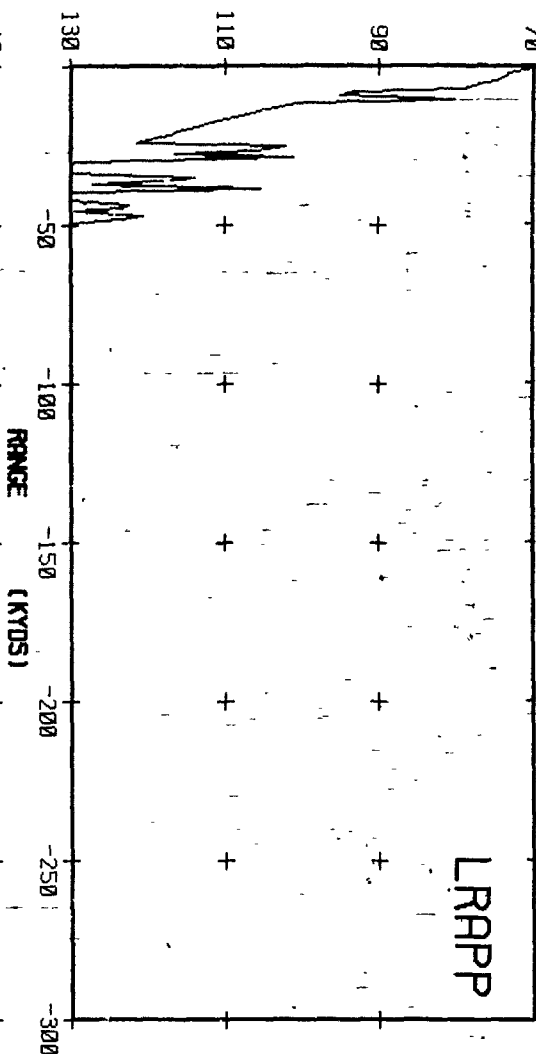


AREA 5 WINTER

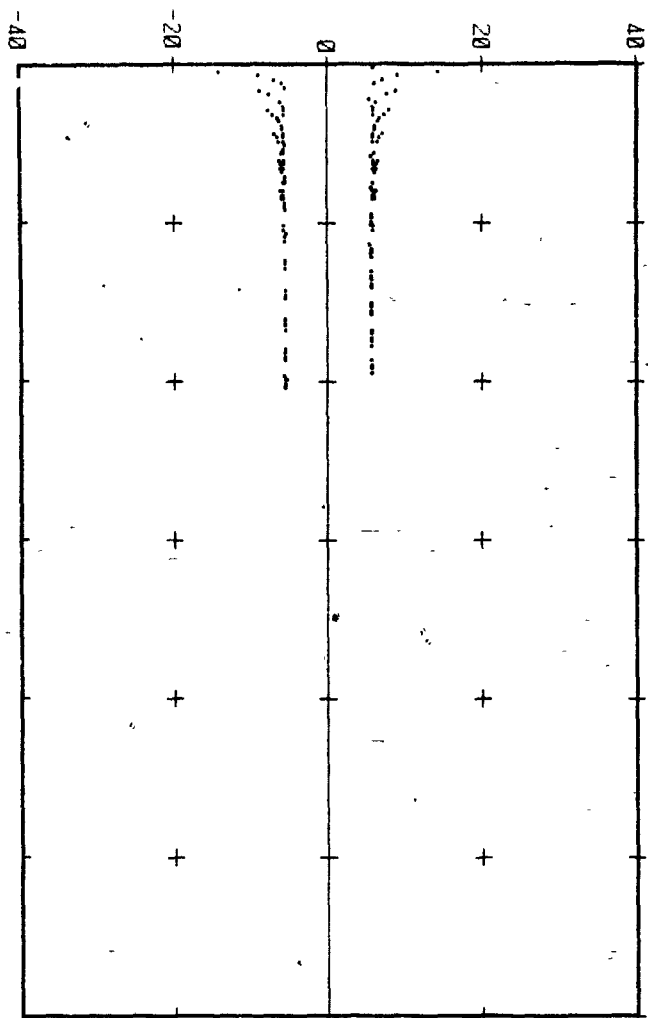
S 20 R 300 F 150

LRAPP

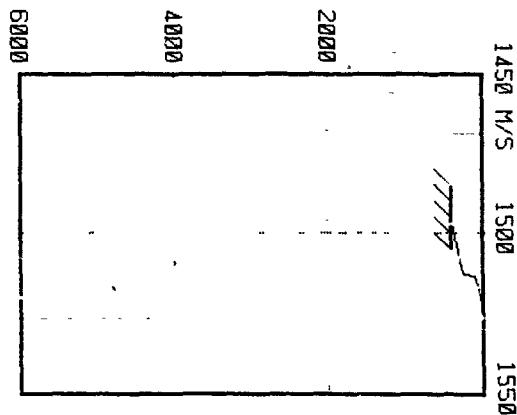
DB LOSS



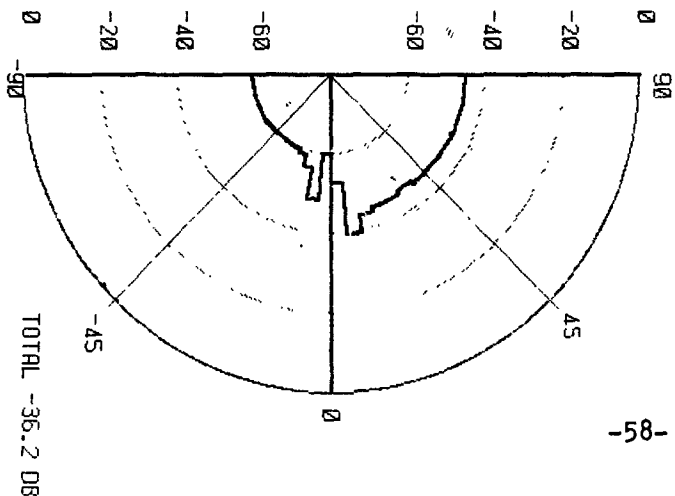
ARRIVAL ANGLE

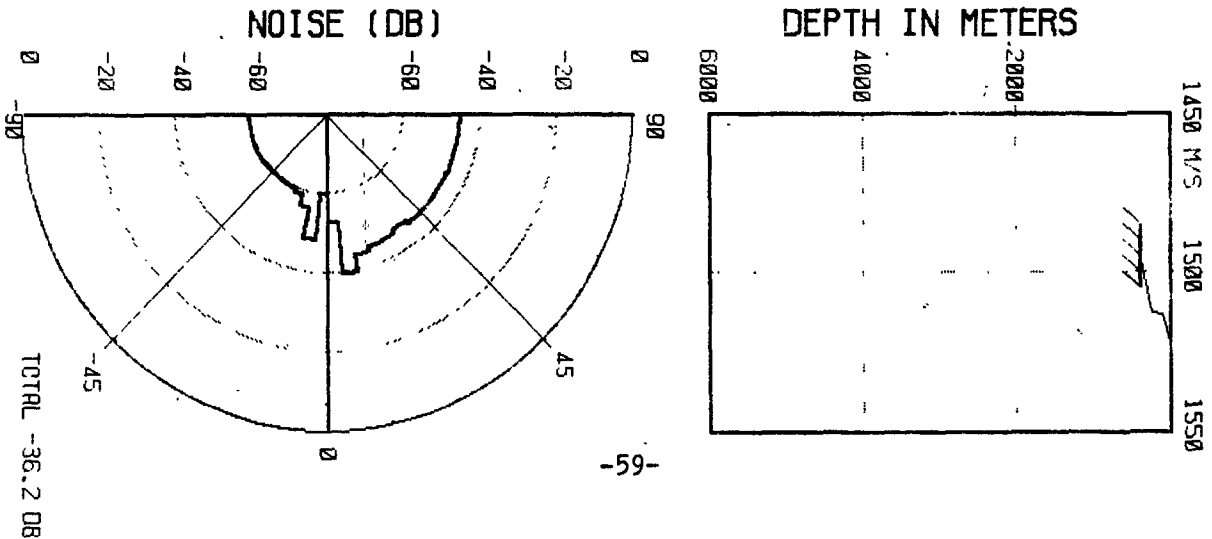
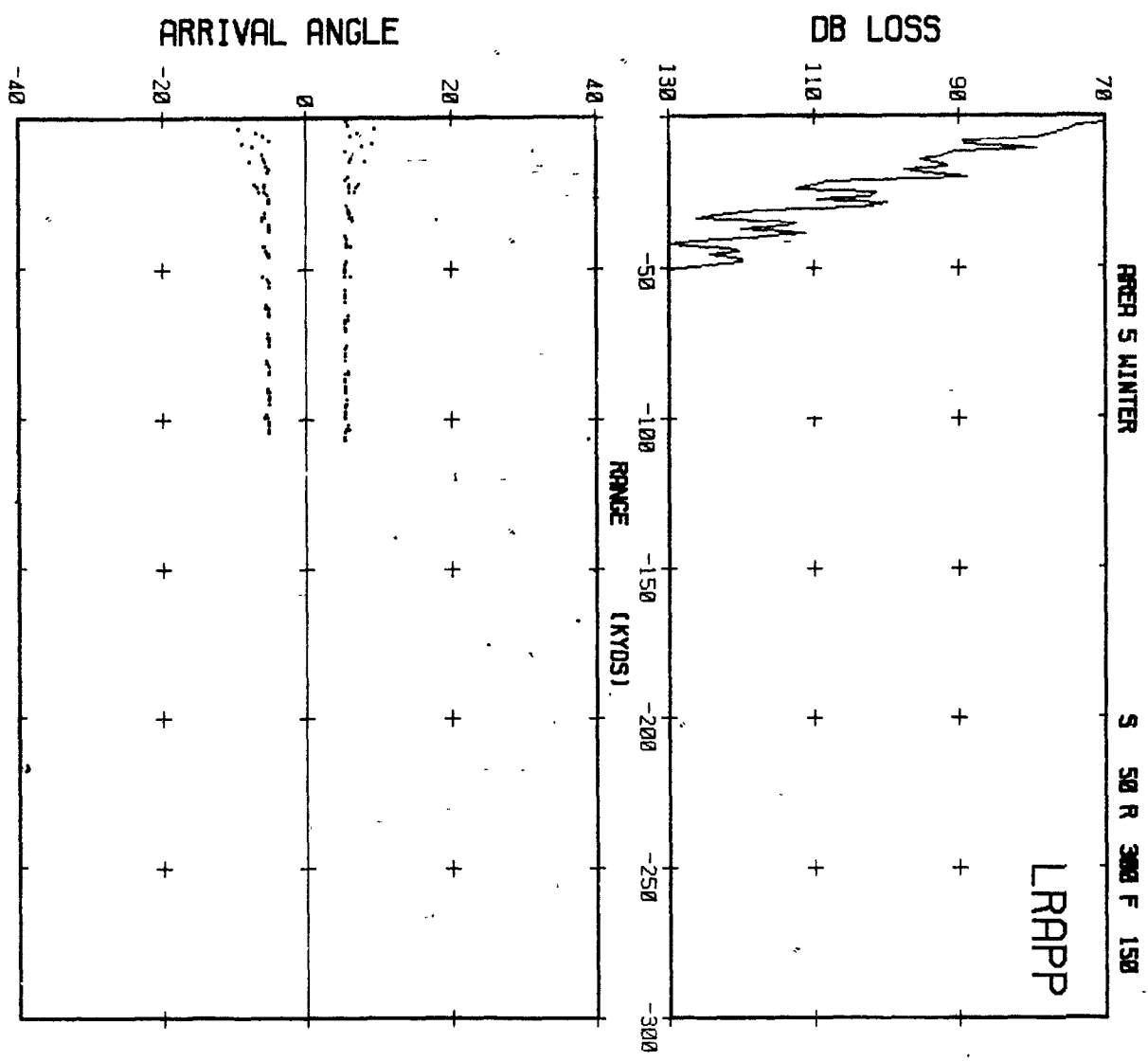


DEPTH IN METERS



NOISE (DB)





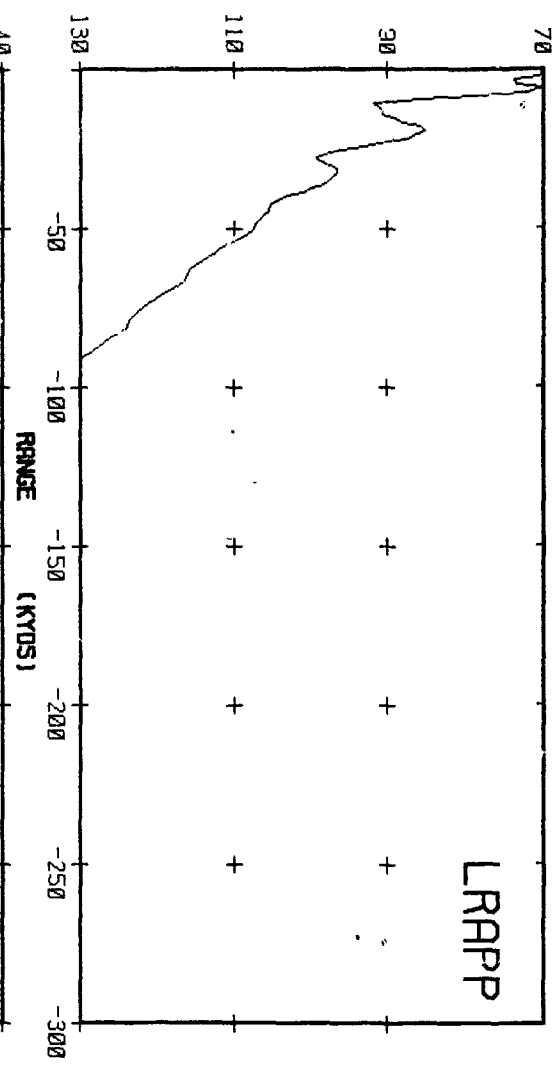
154700Z APR 68
FM JCRC
TO: JCRC
INFO: JCRC

AREA 5 HINTER

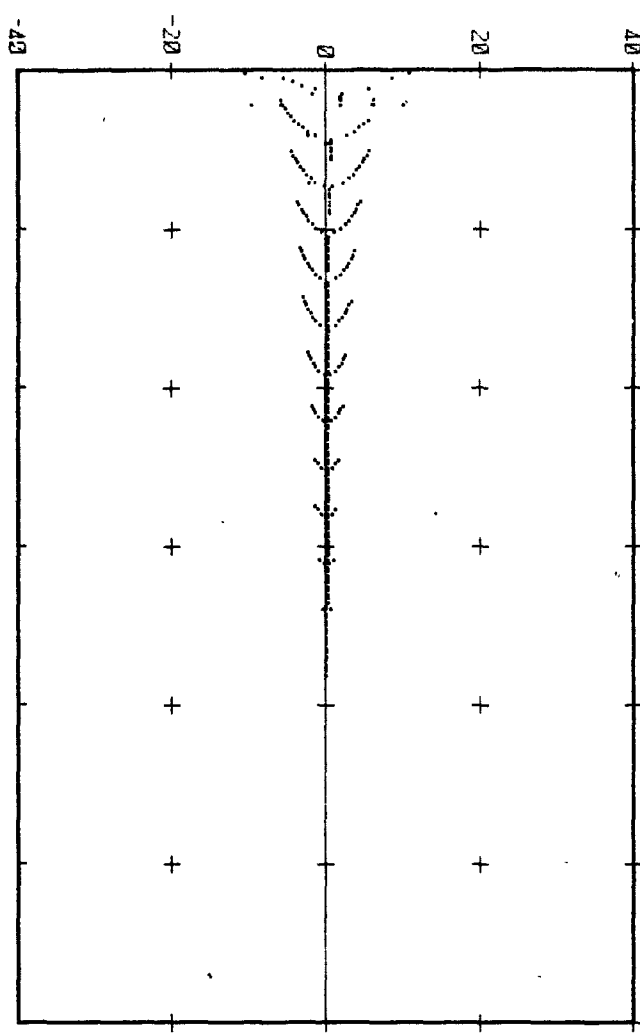
S 1020 R 300 F 150

LRAPP

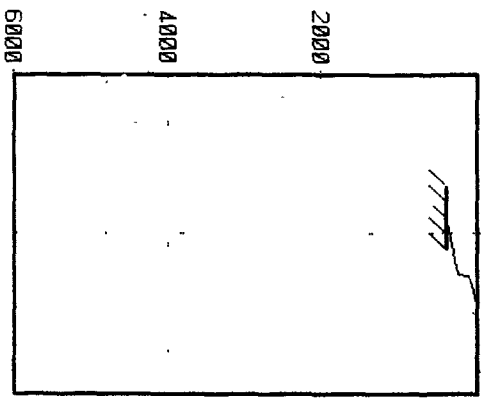
DB LOSS



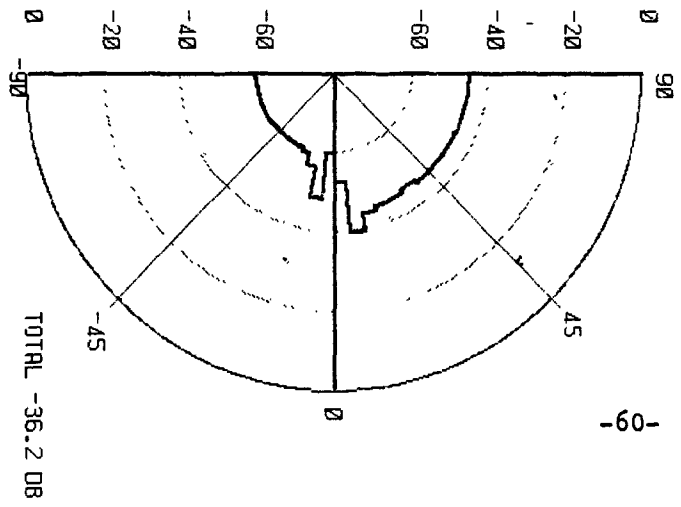
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



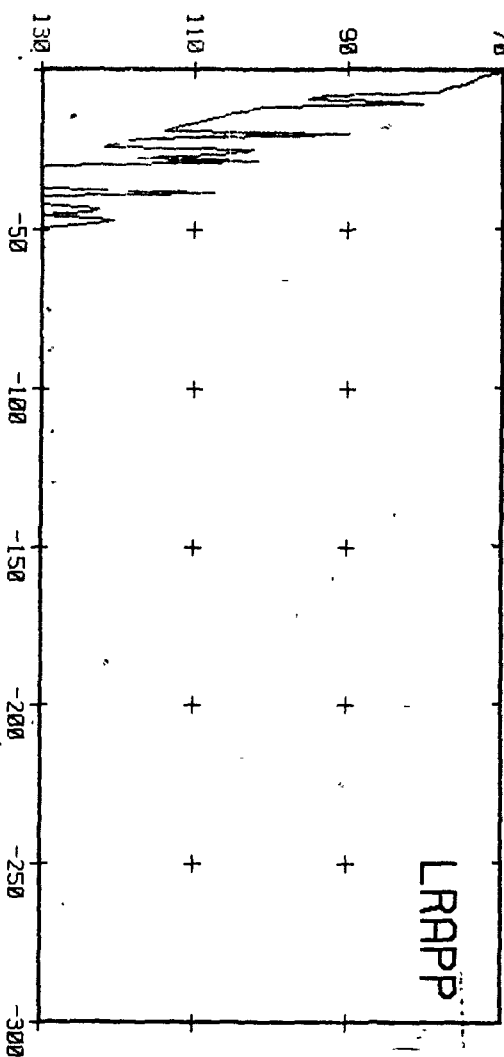
TOTAL -36.2 DB

AREA 5 WINTER

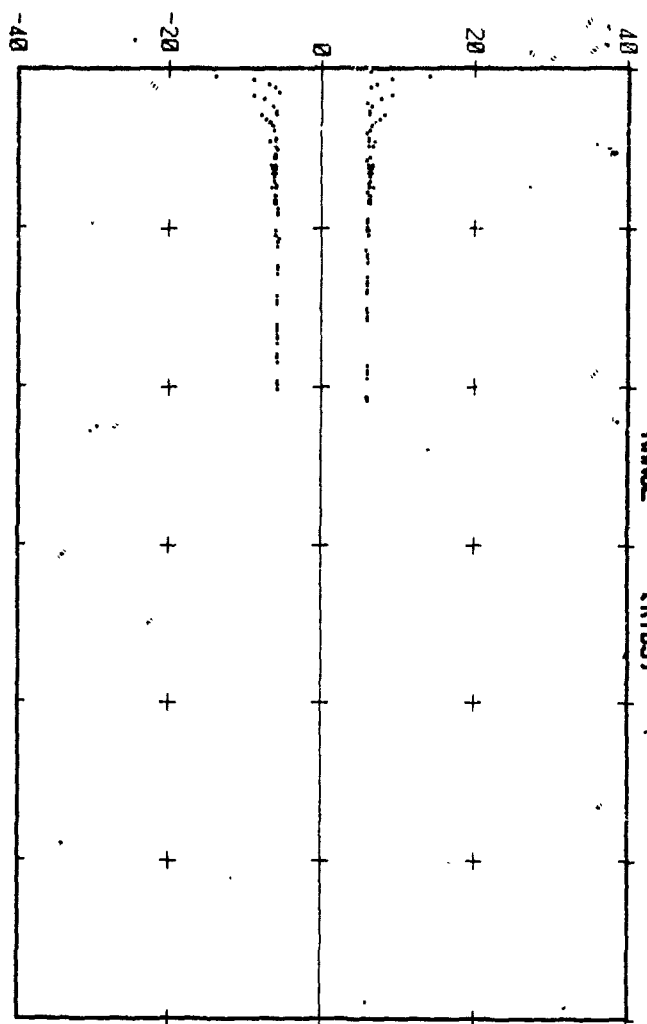
S 20 R 328 F 150

1450 M/S 1500 1550

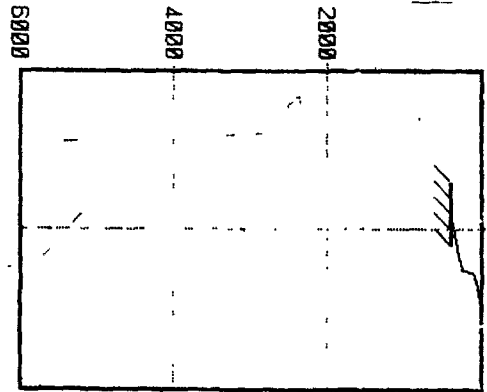
DB LOSS



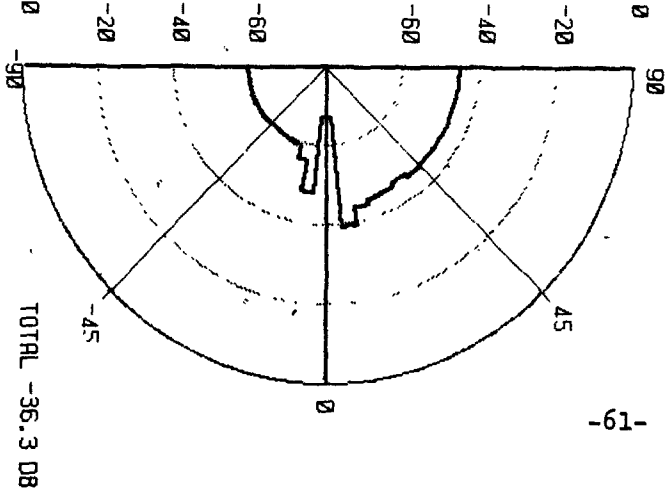
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

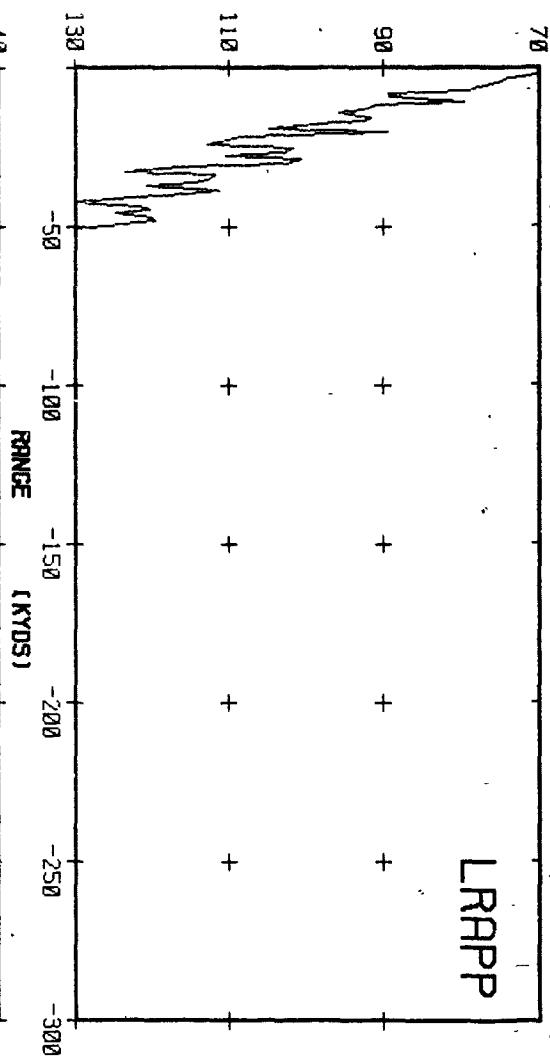


PRER 5 WINTER

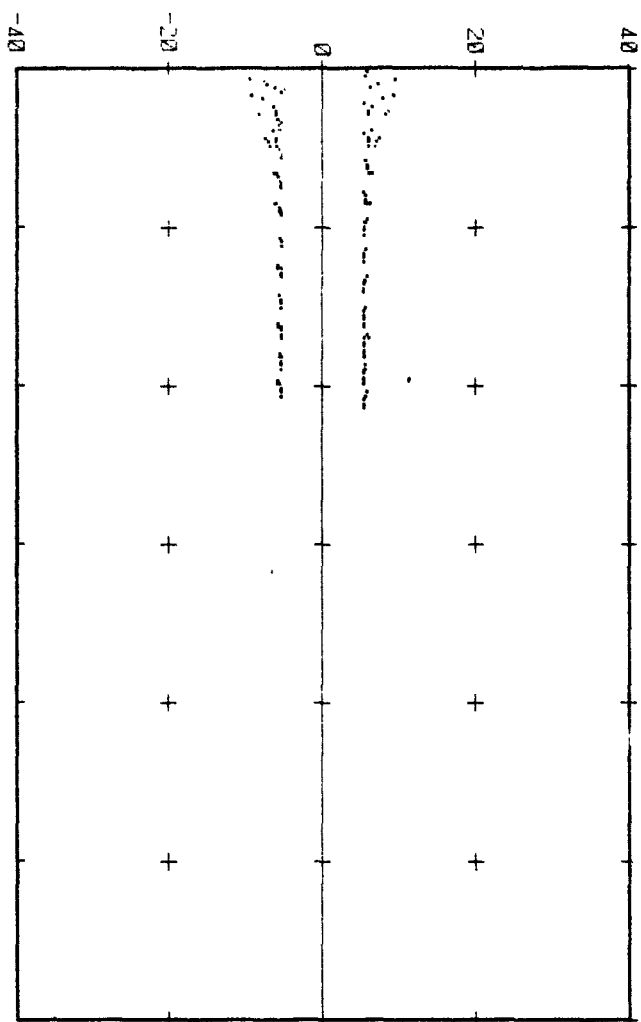
S 50 R 328 F 150

1450 M/S 1500 1550

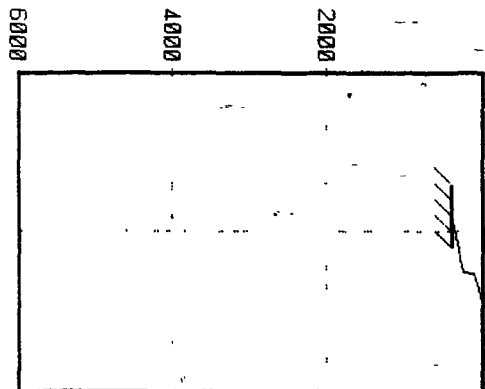
DB LOSS



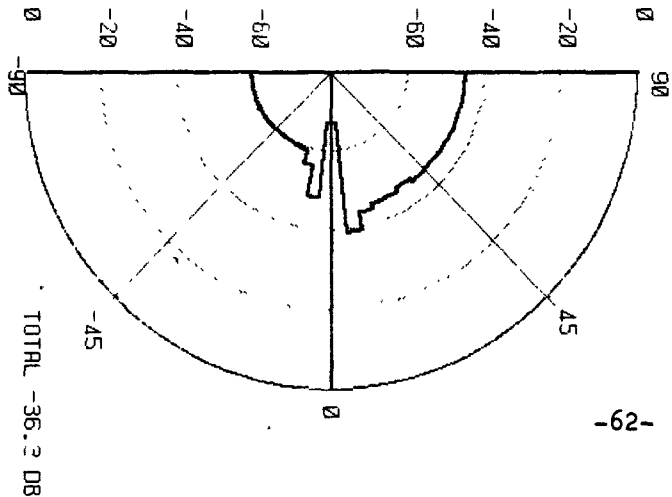
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

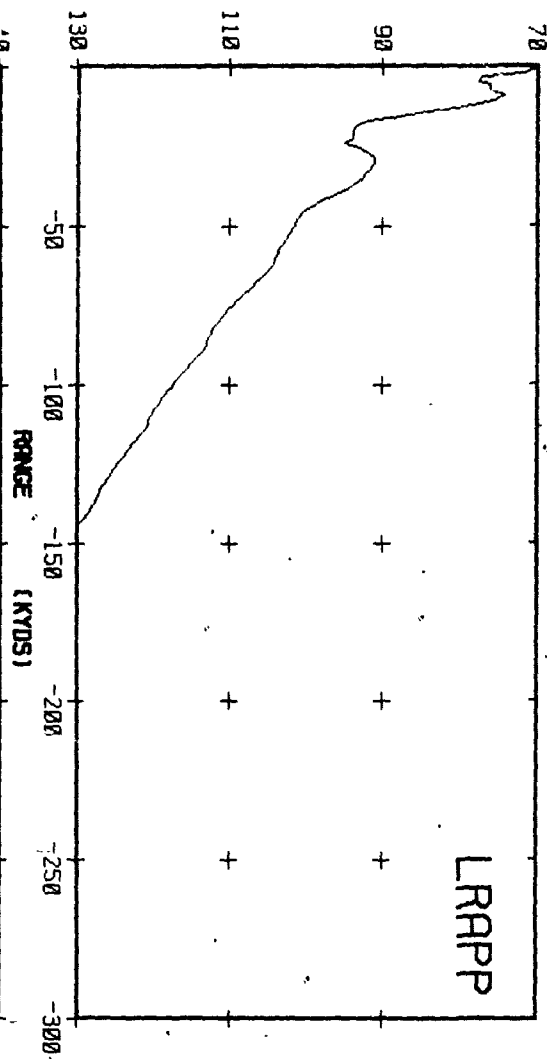


RRER 5 WINTER

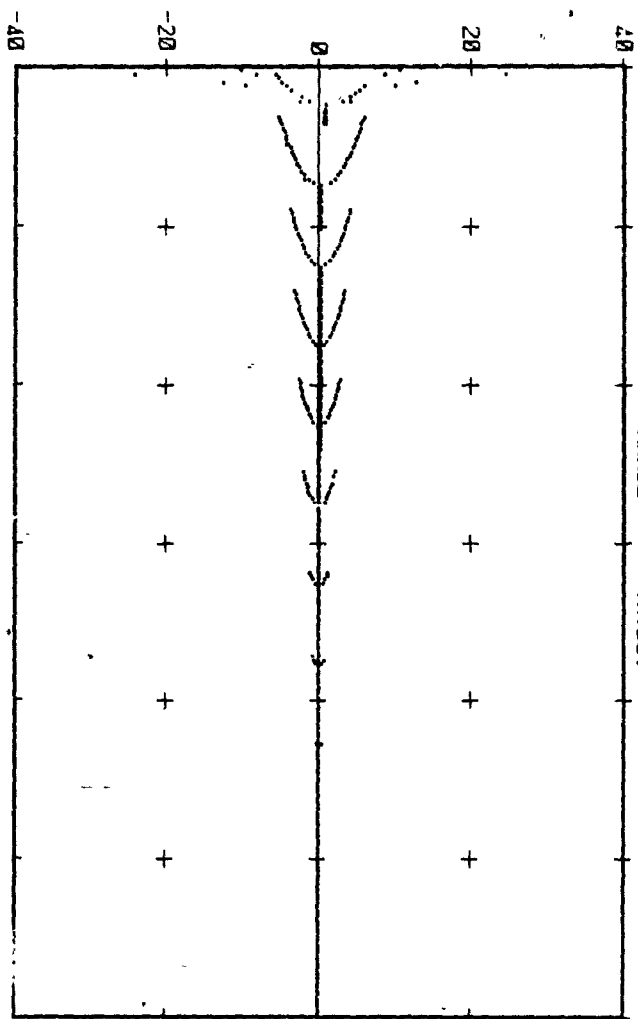
S 1026 R 328 F 150

LRAPP

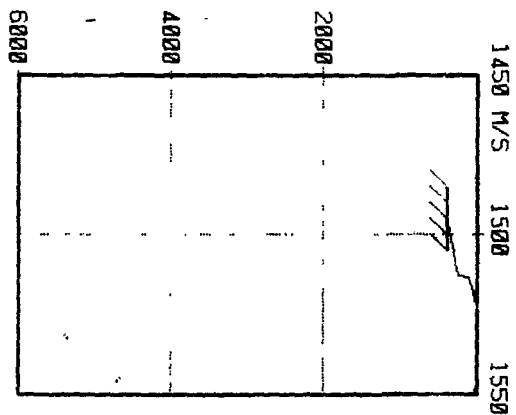
DB LOSS



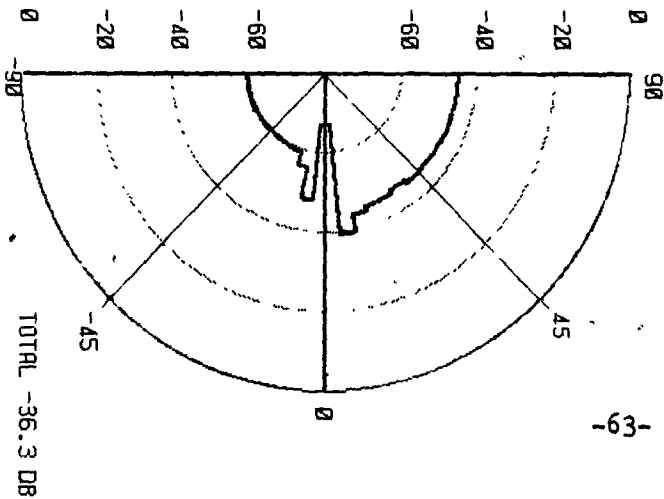
ARRIVAL ANGLE

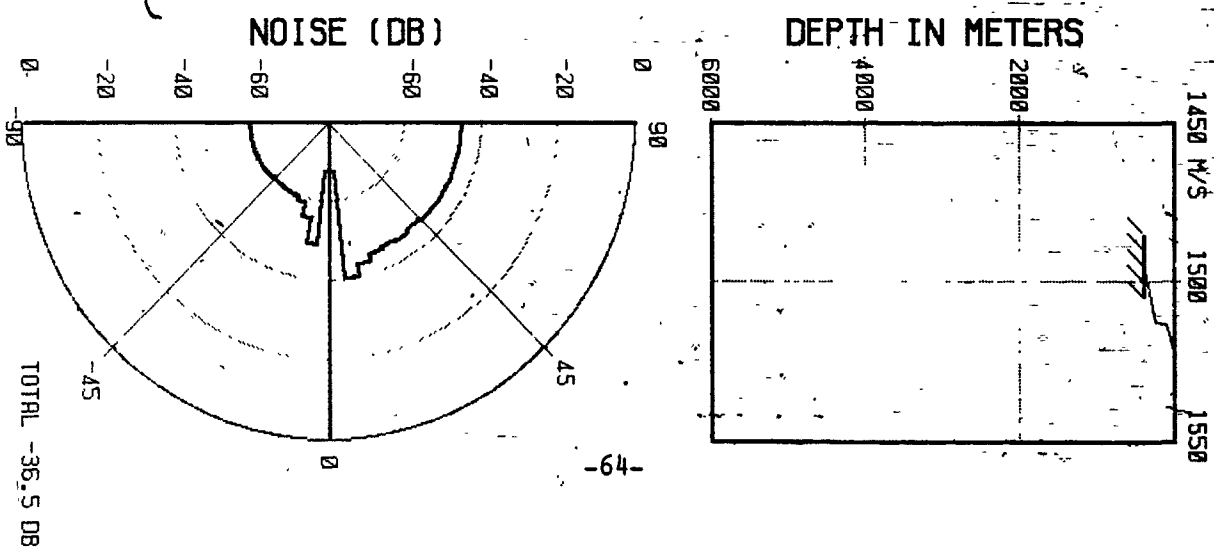
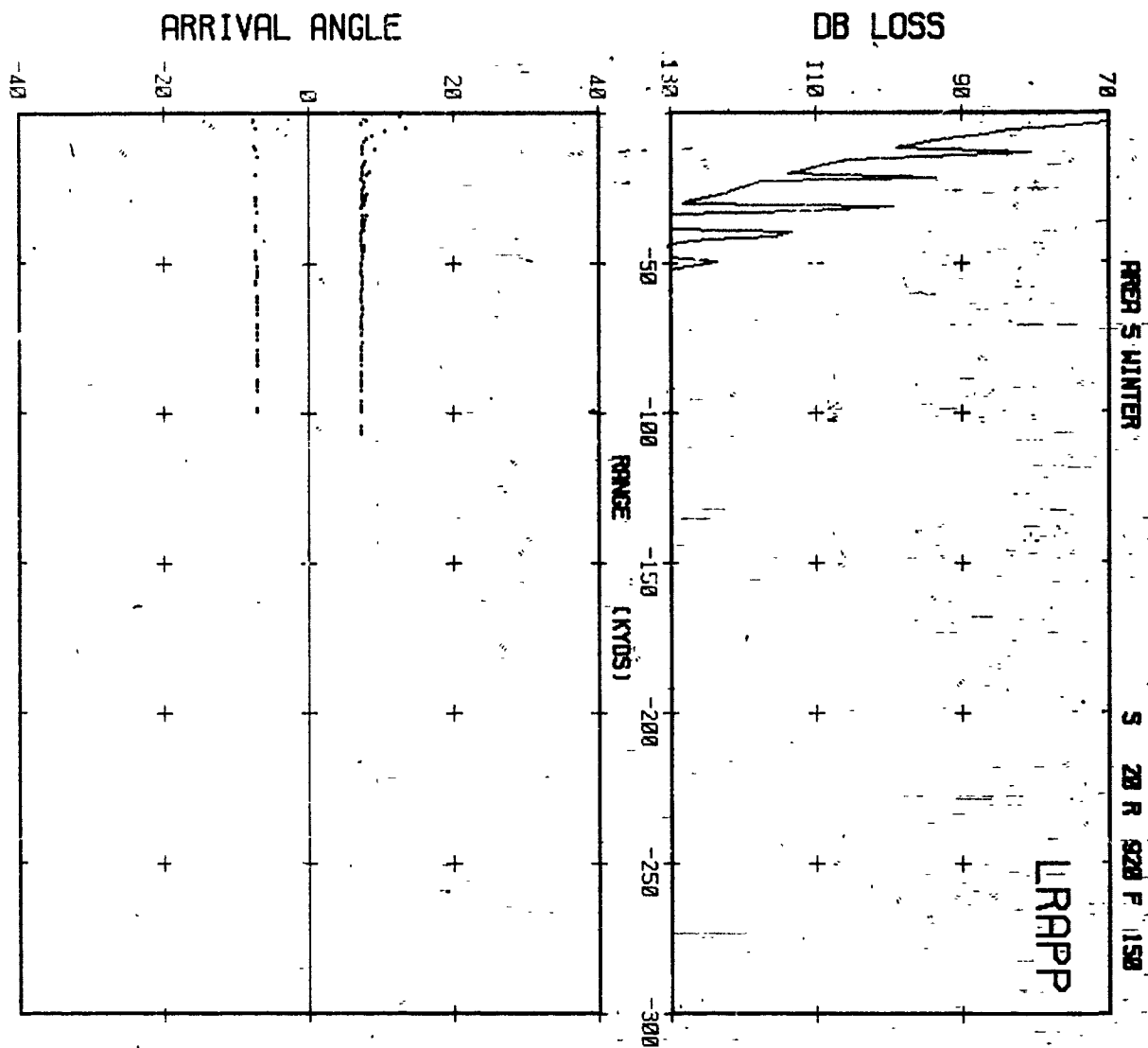


DEPTH IN METERS



NOISE (DB)



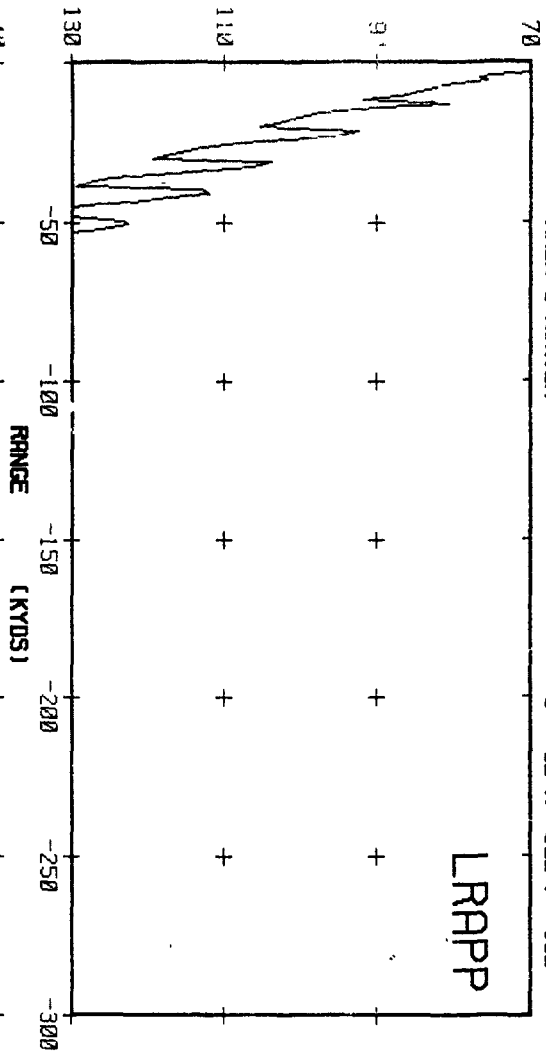


PRER 5 WINTER

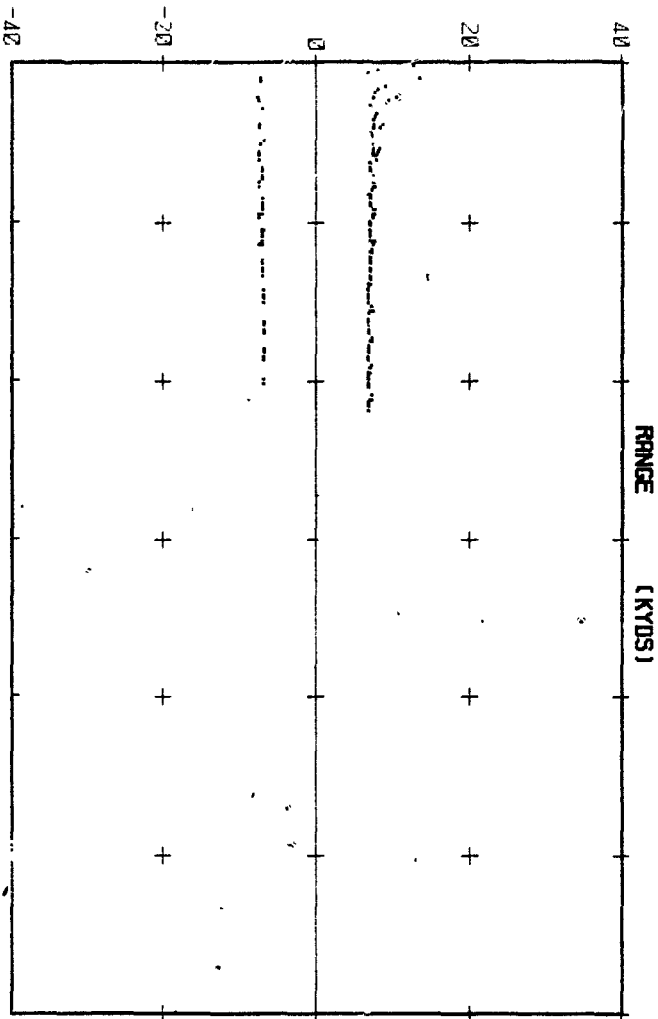
S 50 R 920 F 150

LRAPP

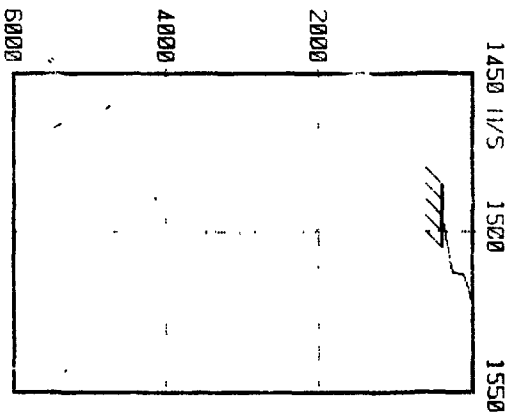
DB LOSS



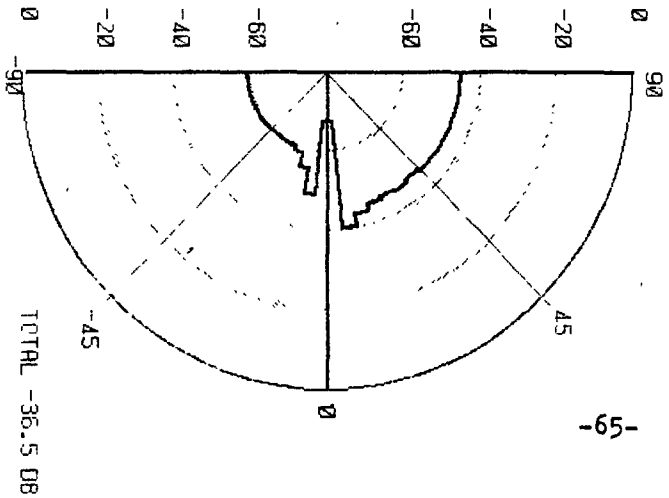
ARRIVAL ANGLE



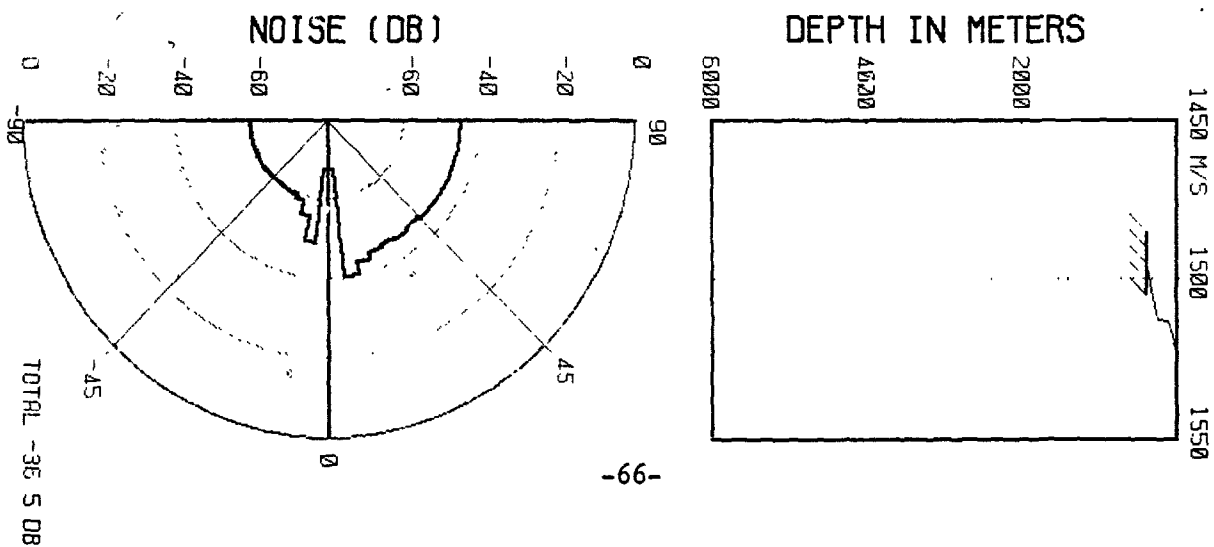
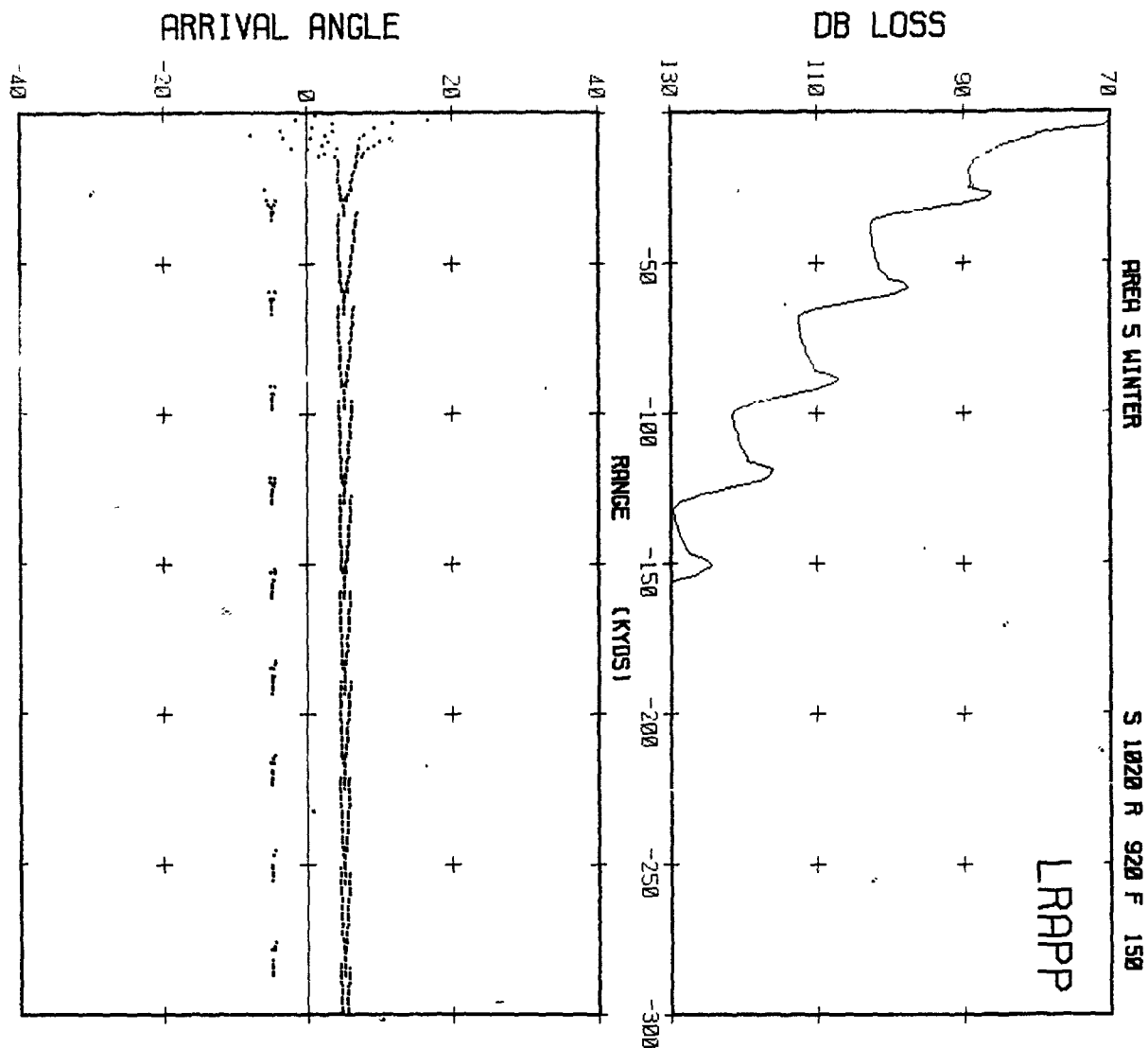
DEPTH IN METERS

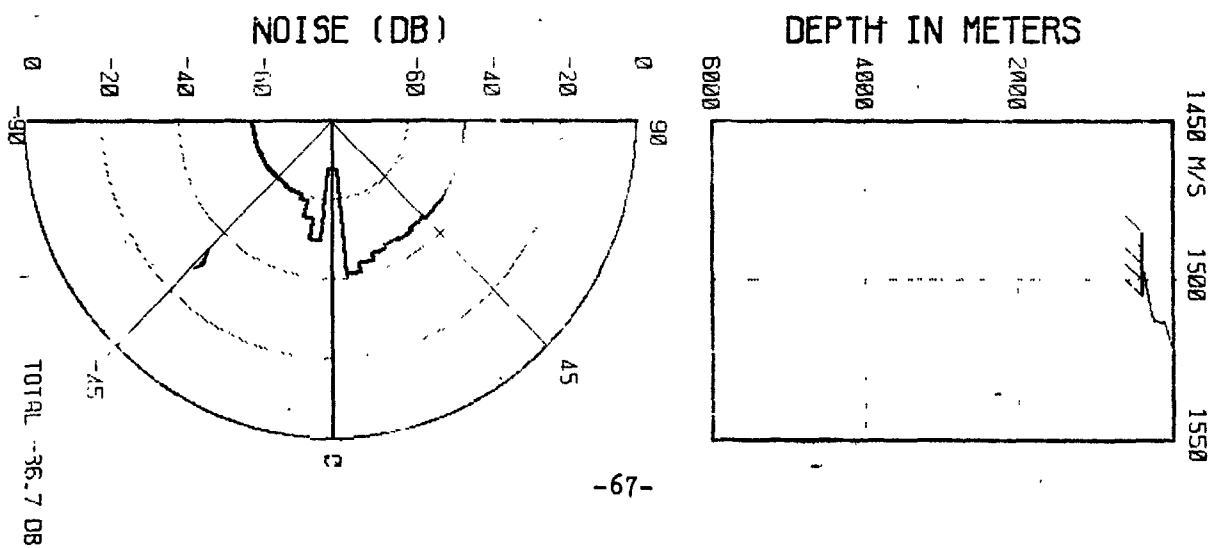
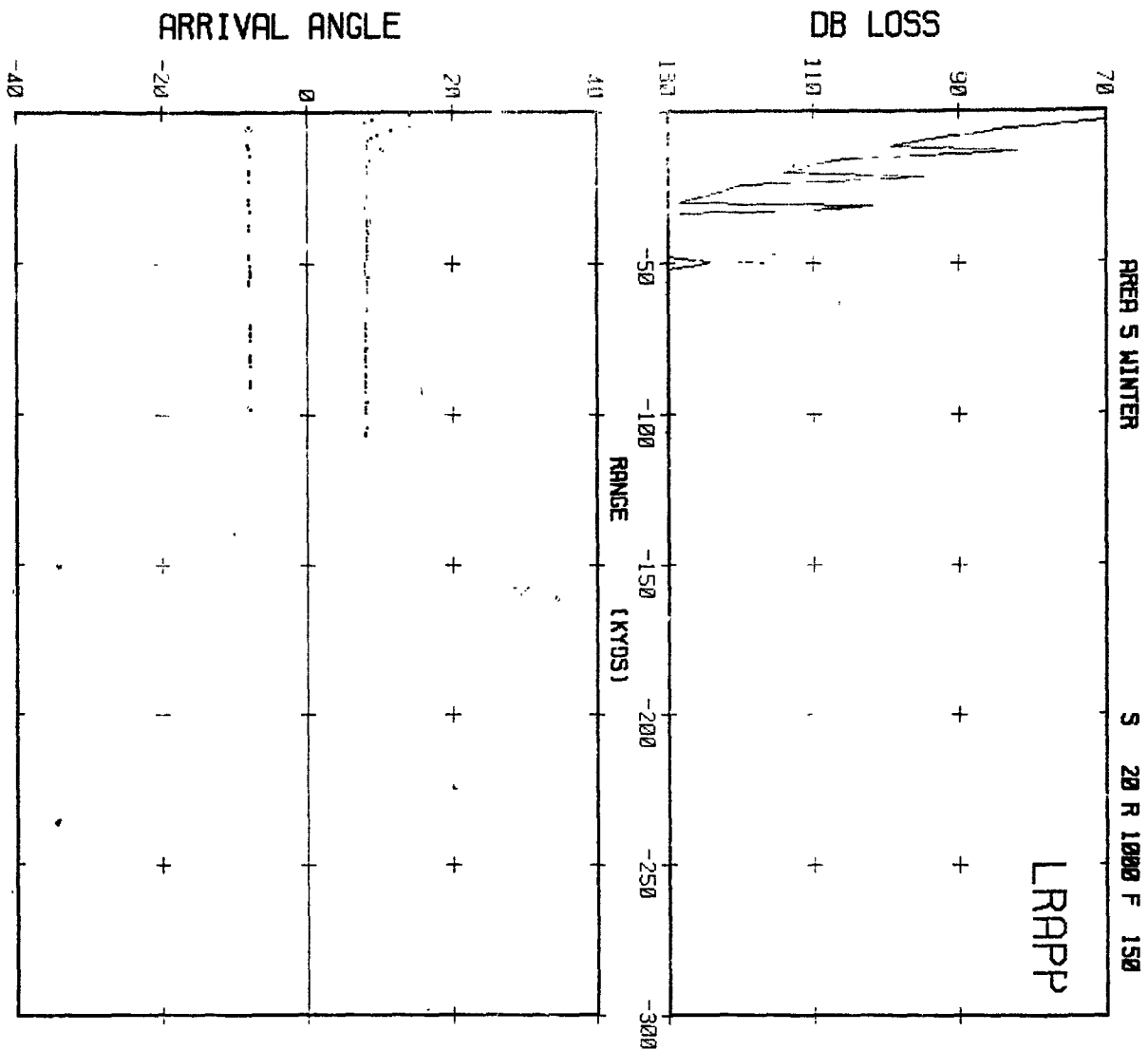


NOISE (DB)



TOTAL -36.5 DB



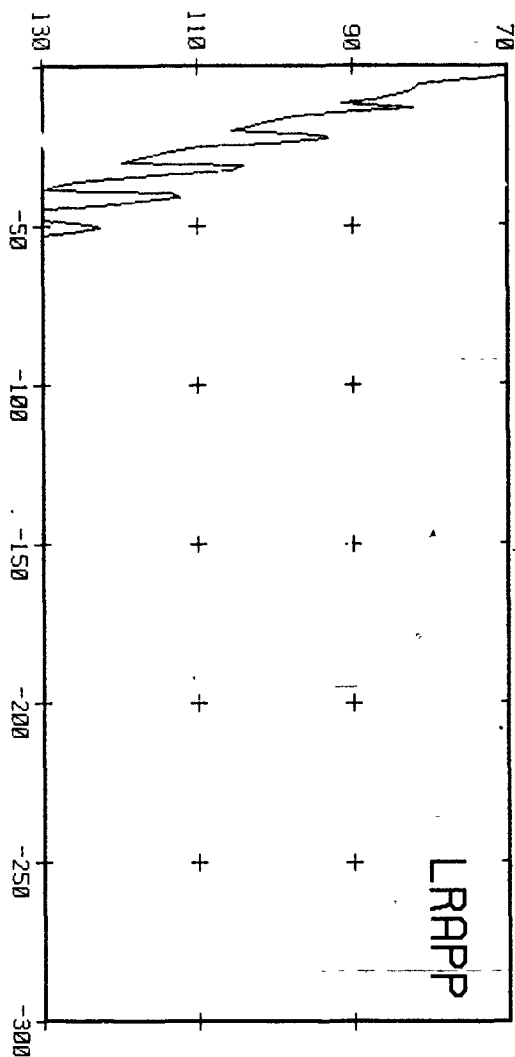


AREA 5 WINTER

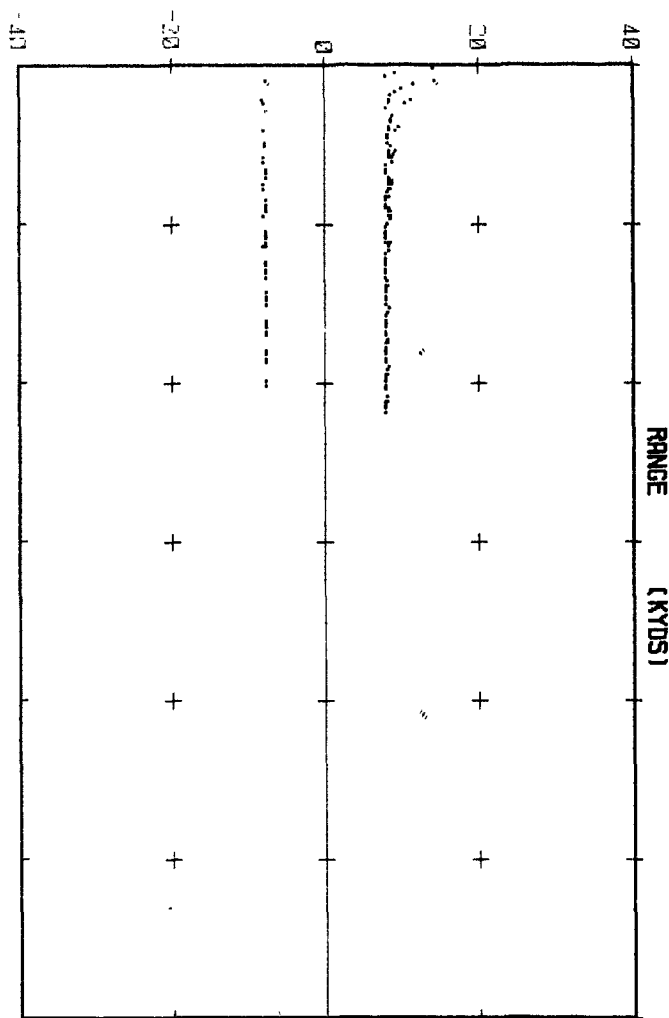
S 50 R 1000 F 150

LRAPP

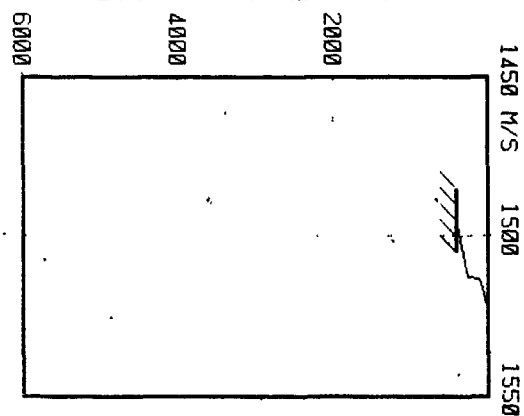
DB LOSS



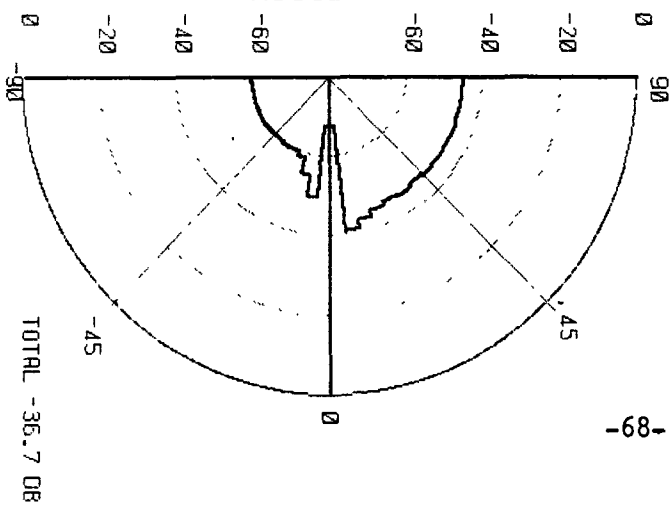
ARRIVAL ANGLE



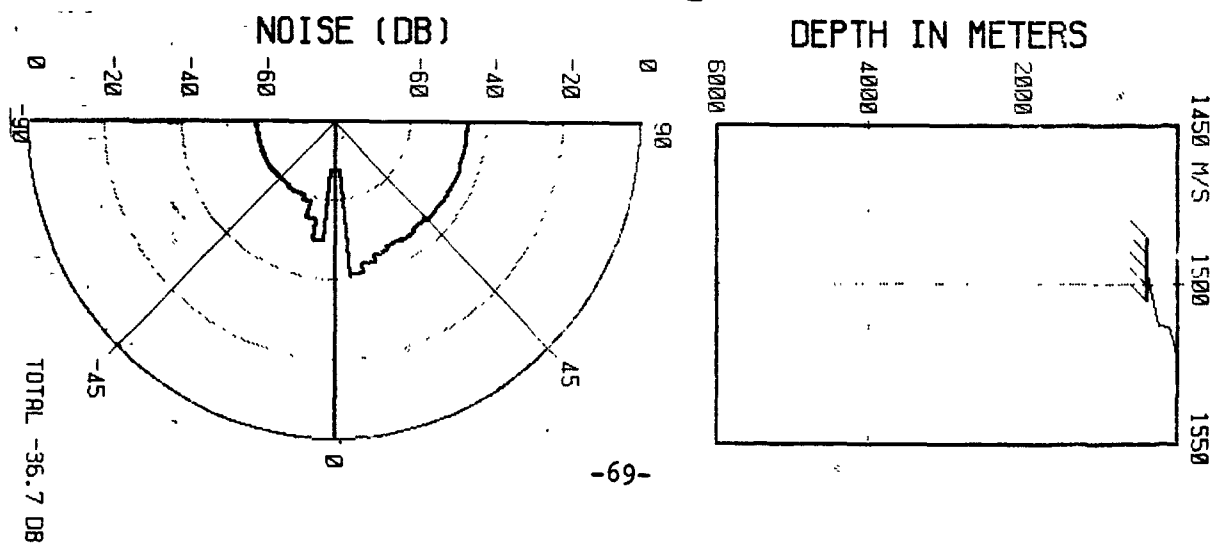
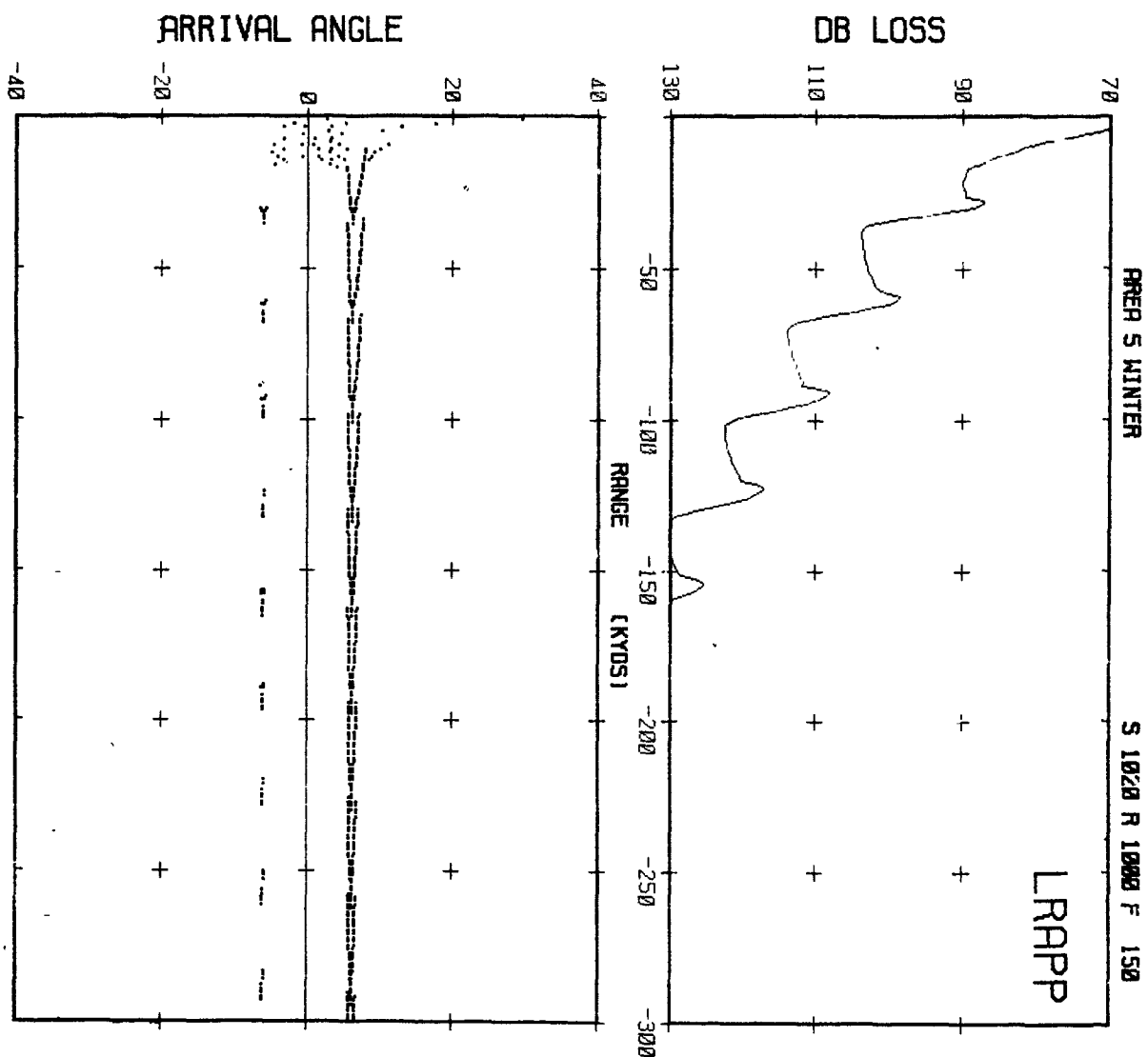
DEPTH IN METERS



NOISE (DB)



TOTAL -36.7 DB





AREA 5 WINTER

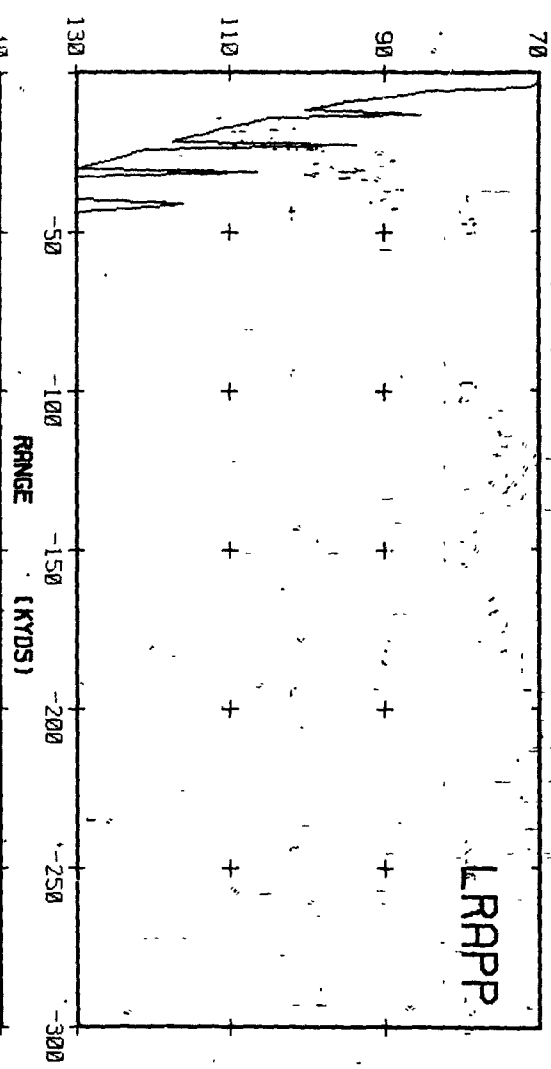
S 20 R 1312 F 150

1450 M/S

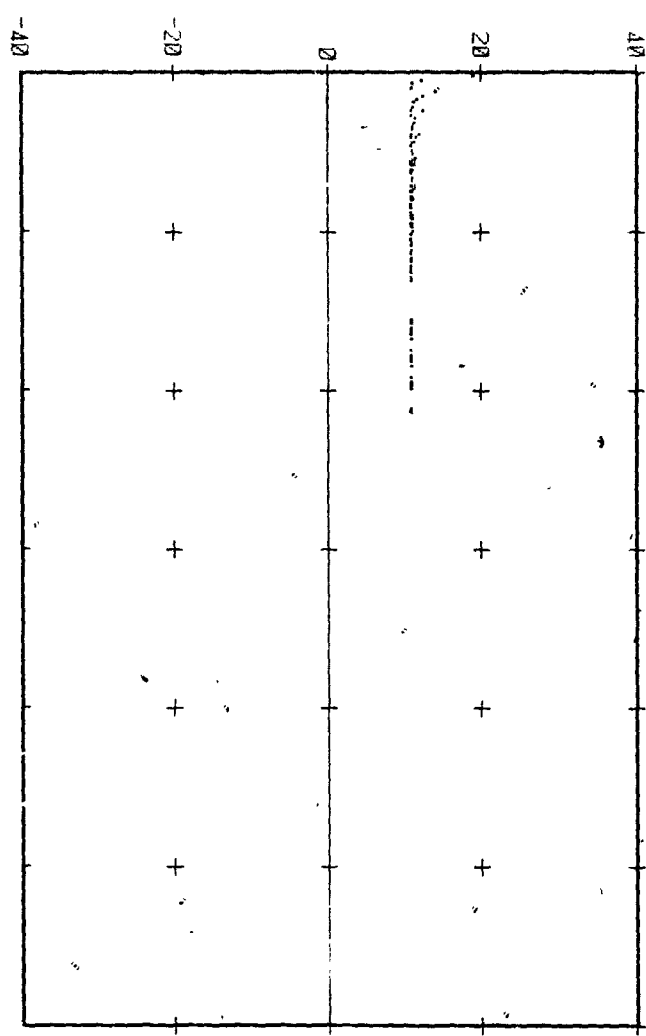
1500

1550

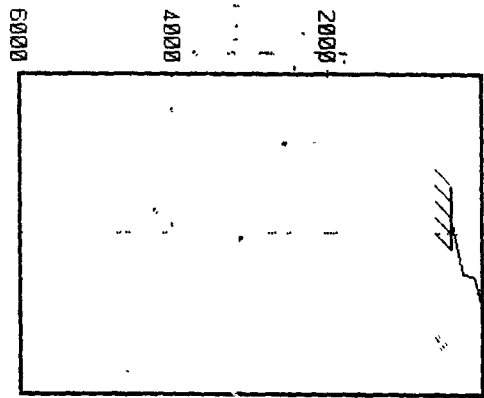
DB LOSS



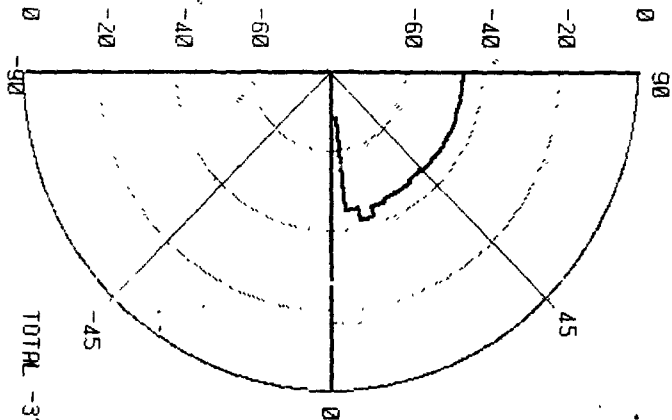
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

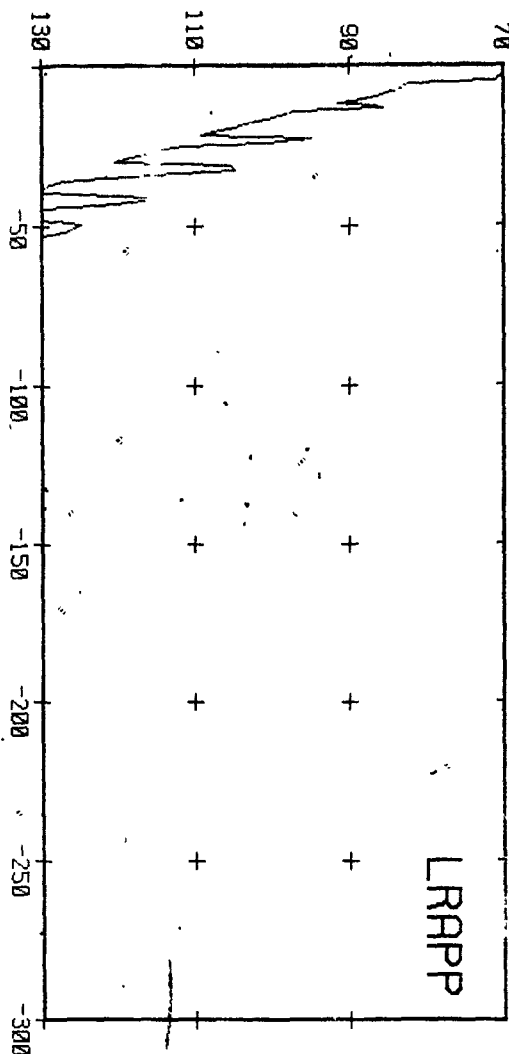


AREA 5 WINTER

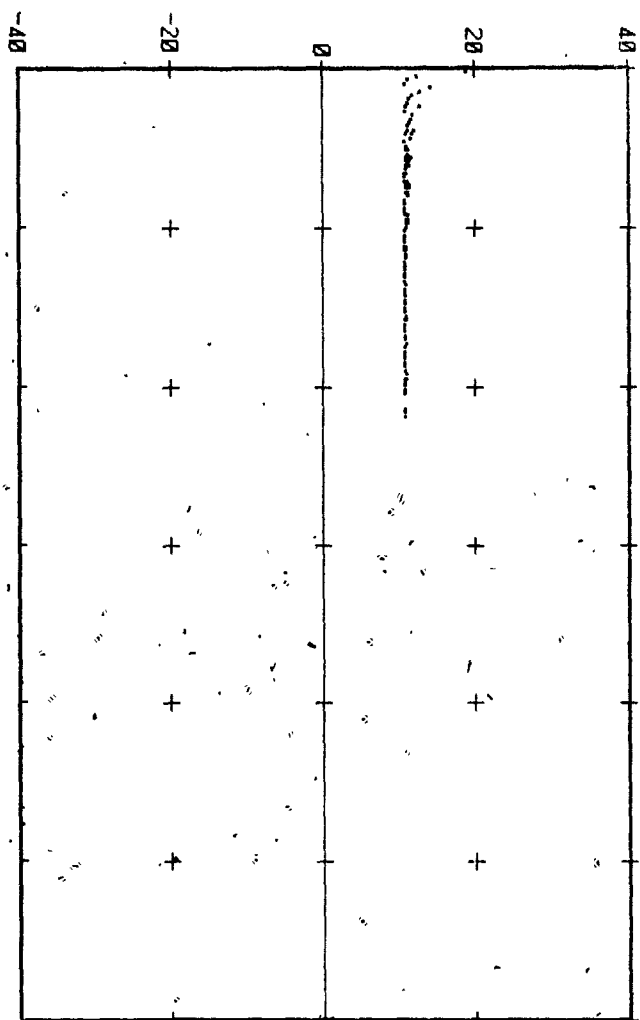
S 50 R 1312 F 150

1450 M/S 1500 1550

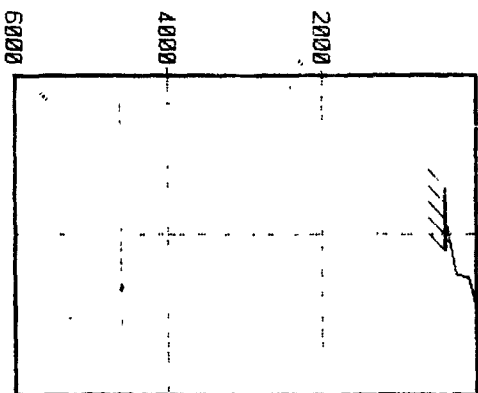
DB LOSS'



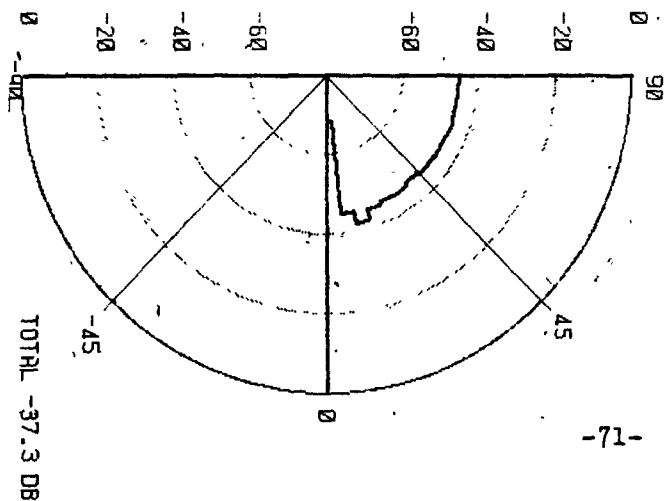
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

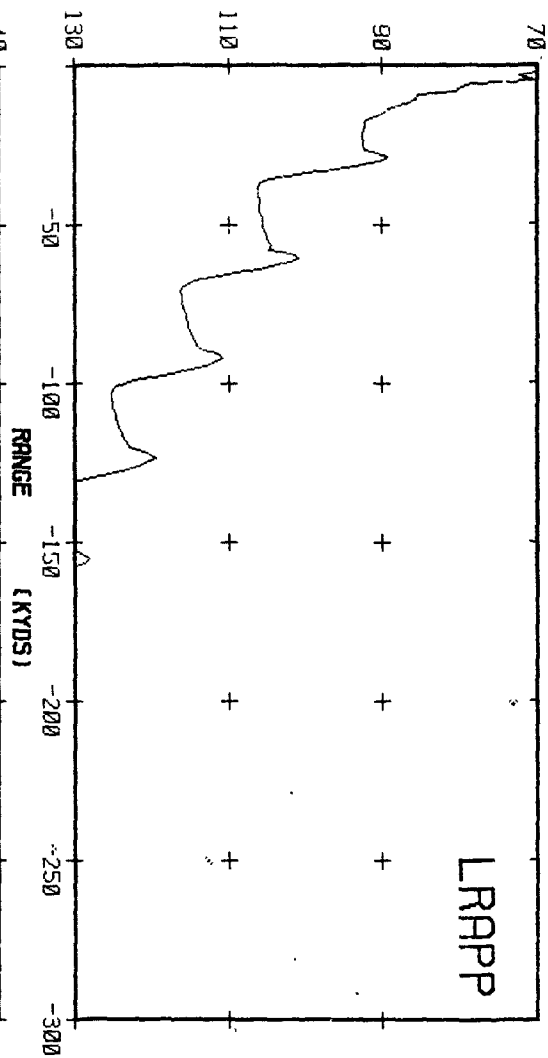


AREA 5 HINTER

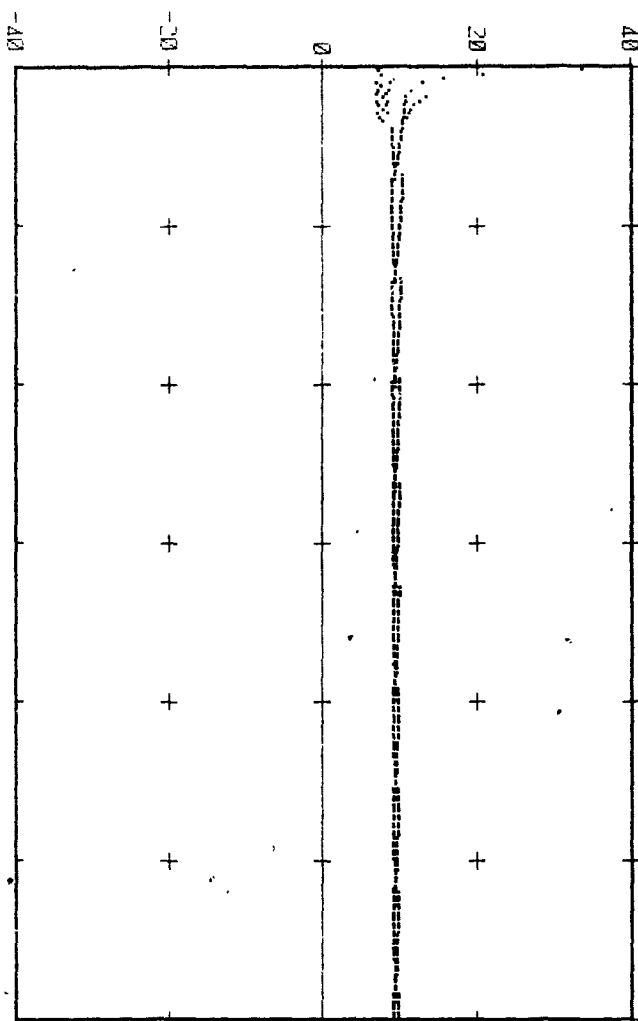
S 1020 R 1312 F 150

1450 M/S 1500 1550

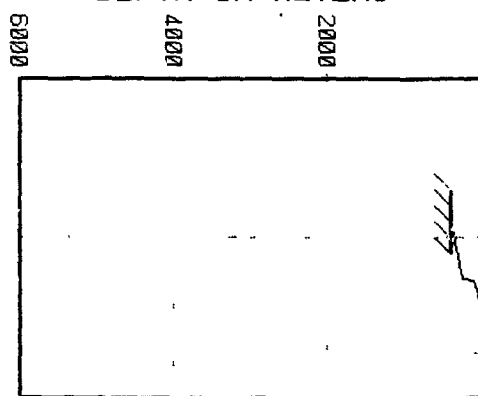
DB LOSS



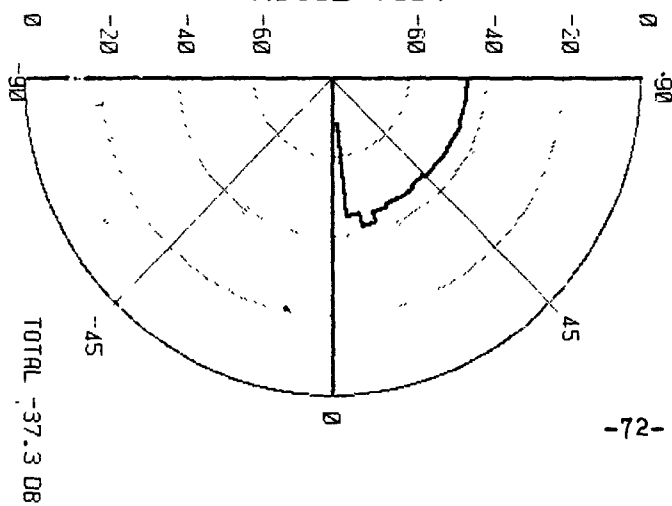
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

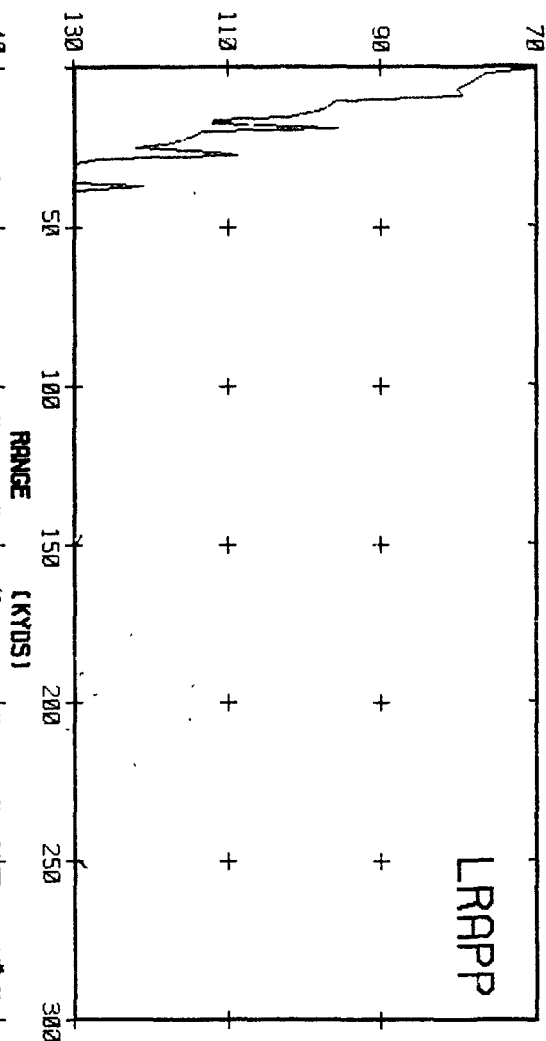


ARRR S WINTER

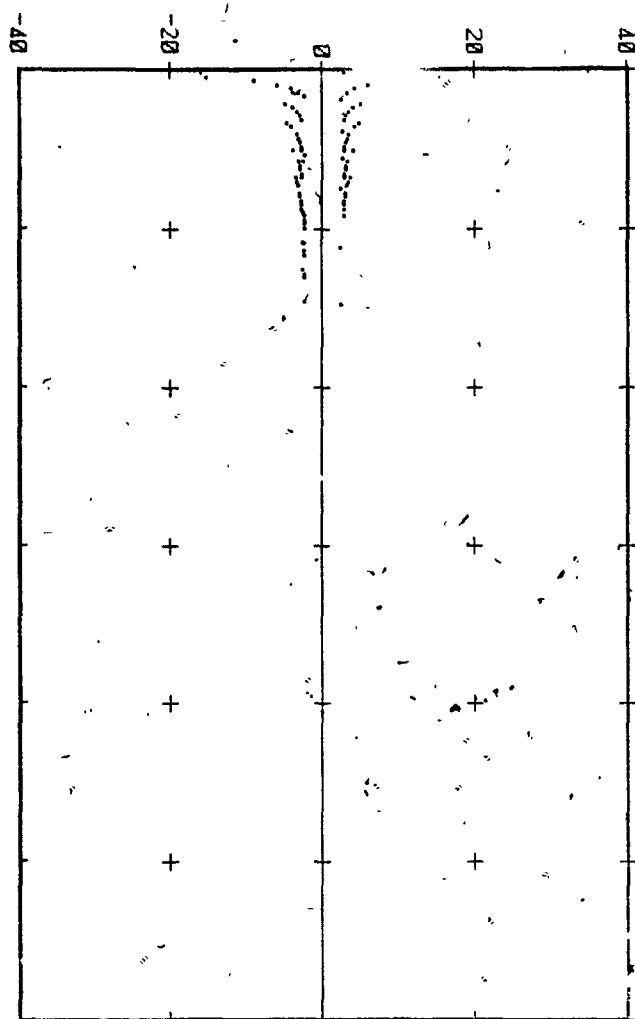
S 20 R 60 F 300

LRAPP

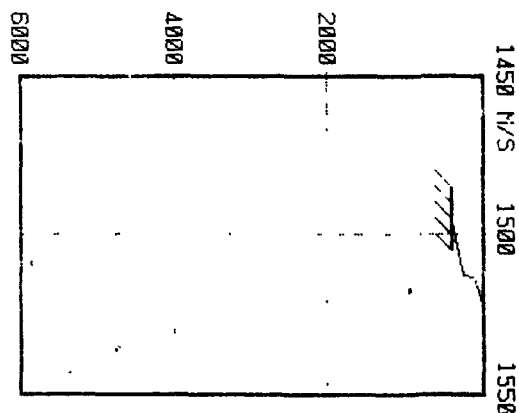
DB LOSS



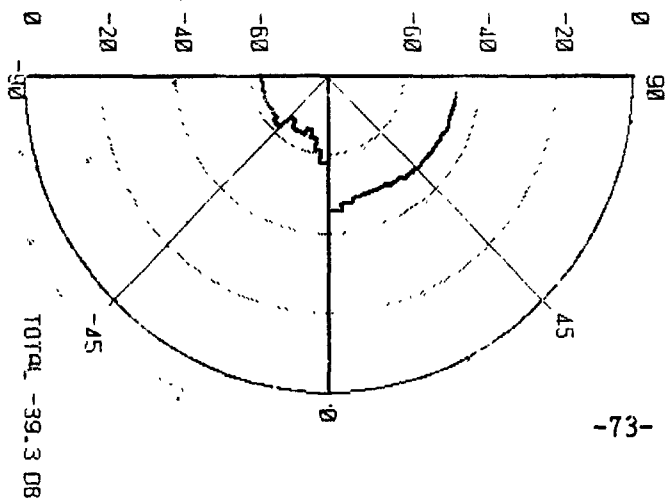
ARRIVAL ANGLE



DEPTH IN METERS

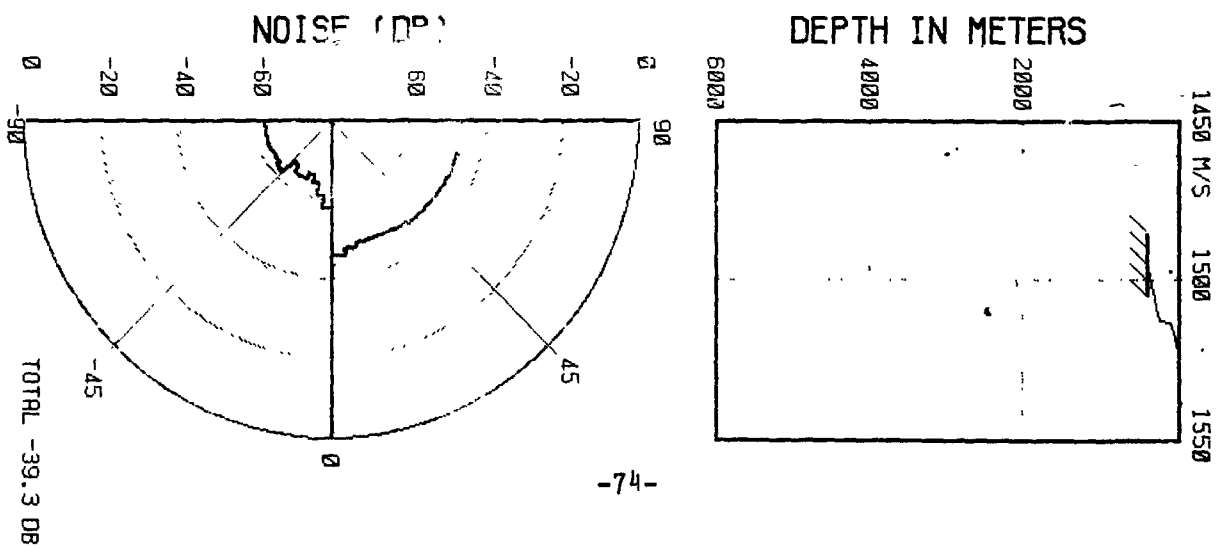
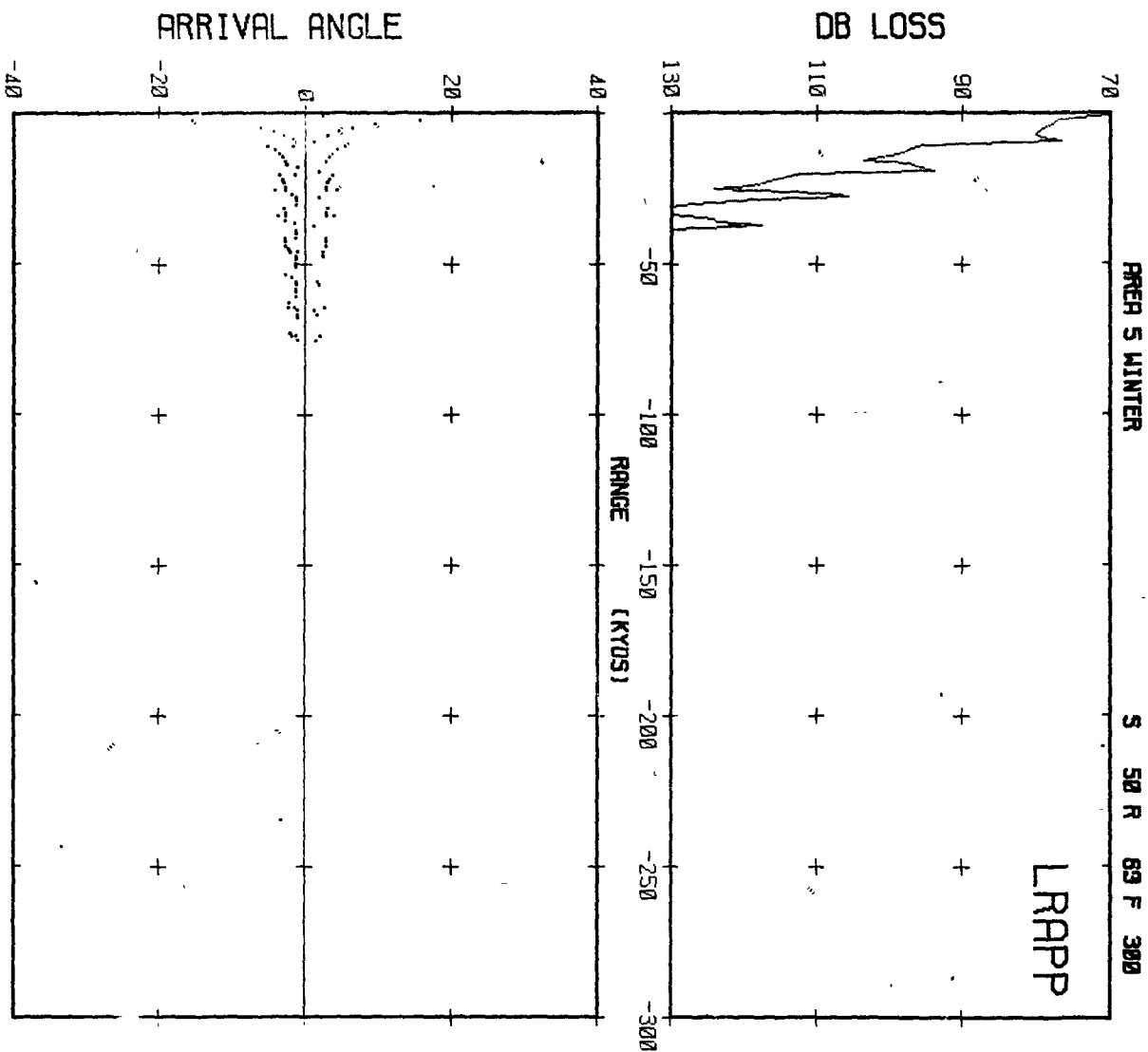


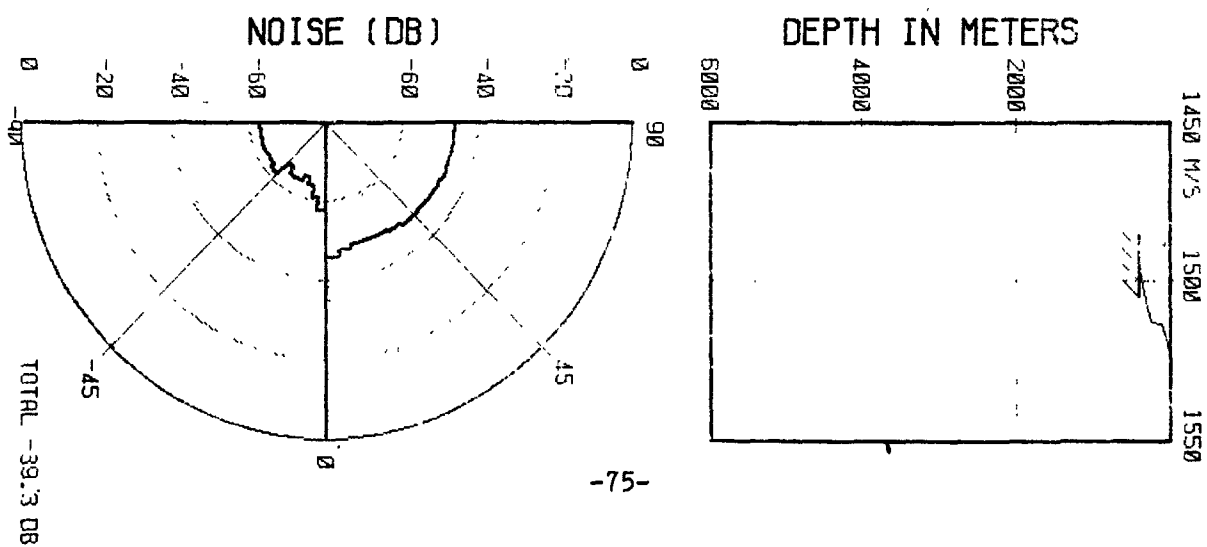
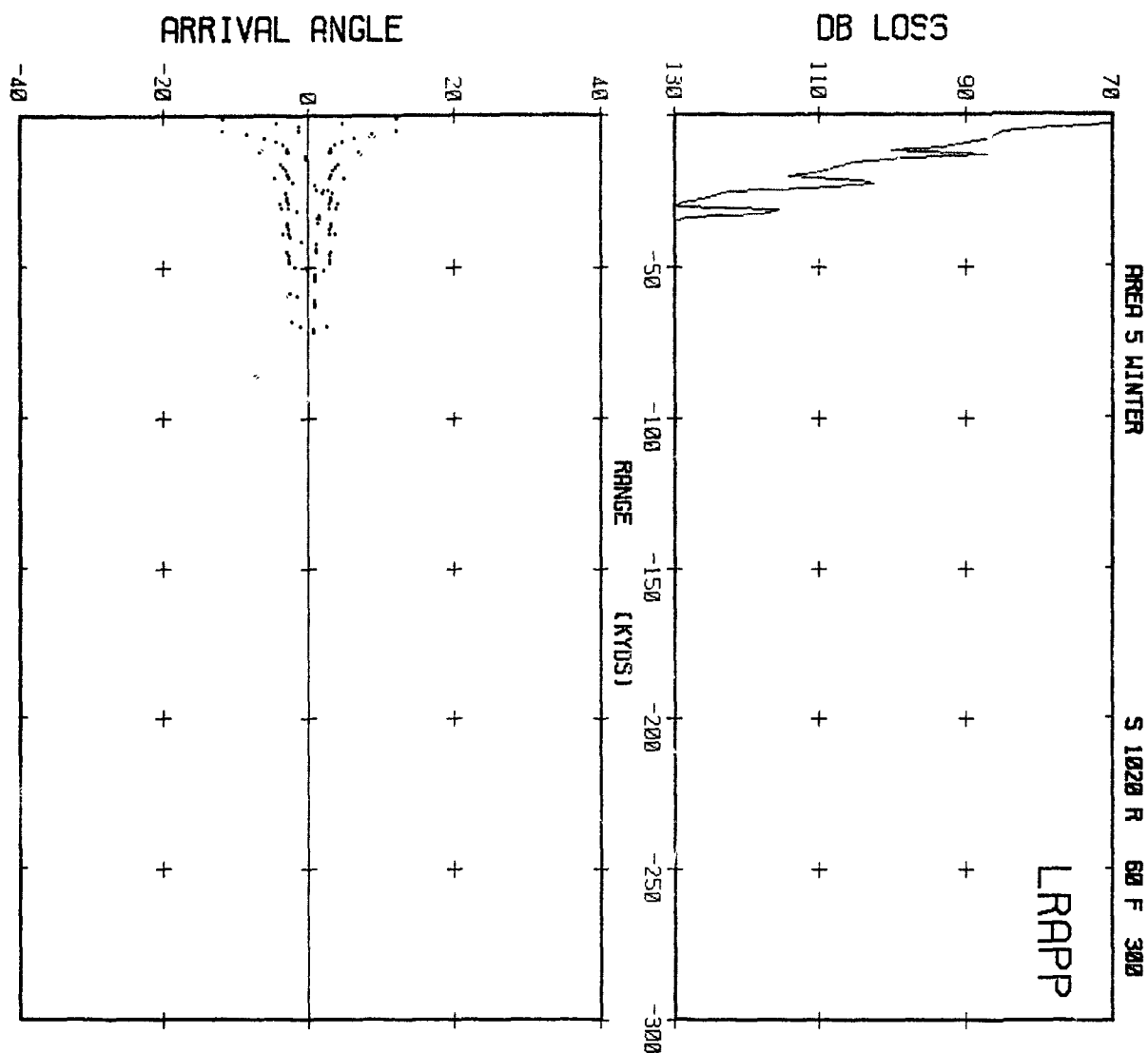
NOISE (DB)



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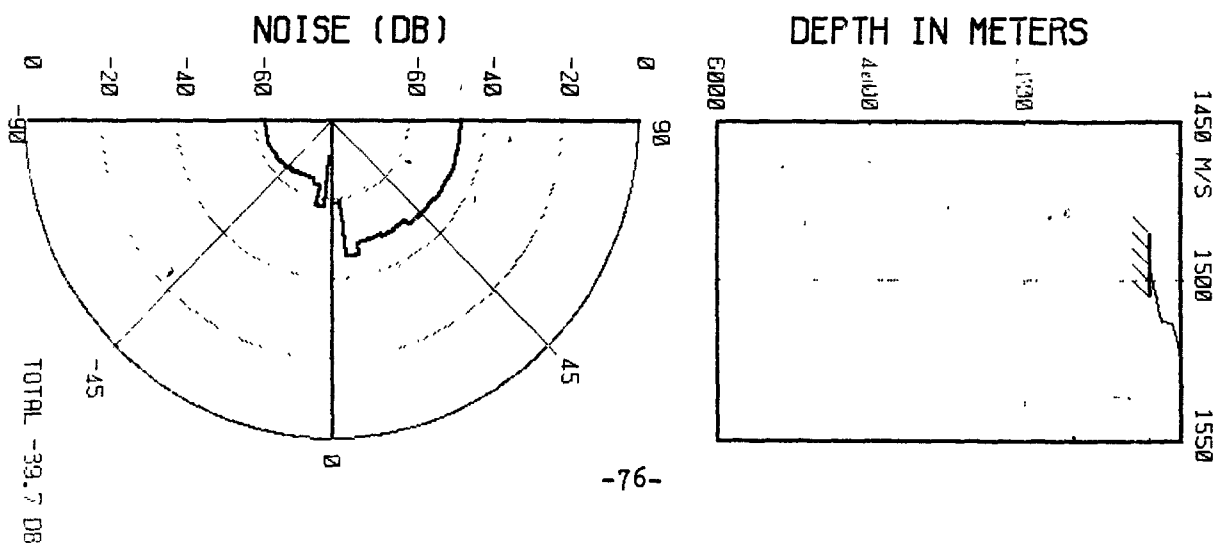
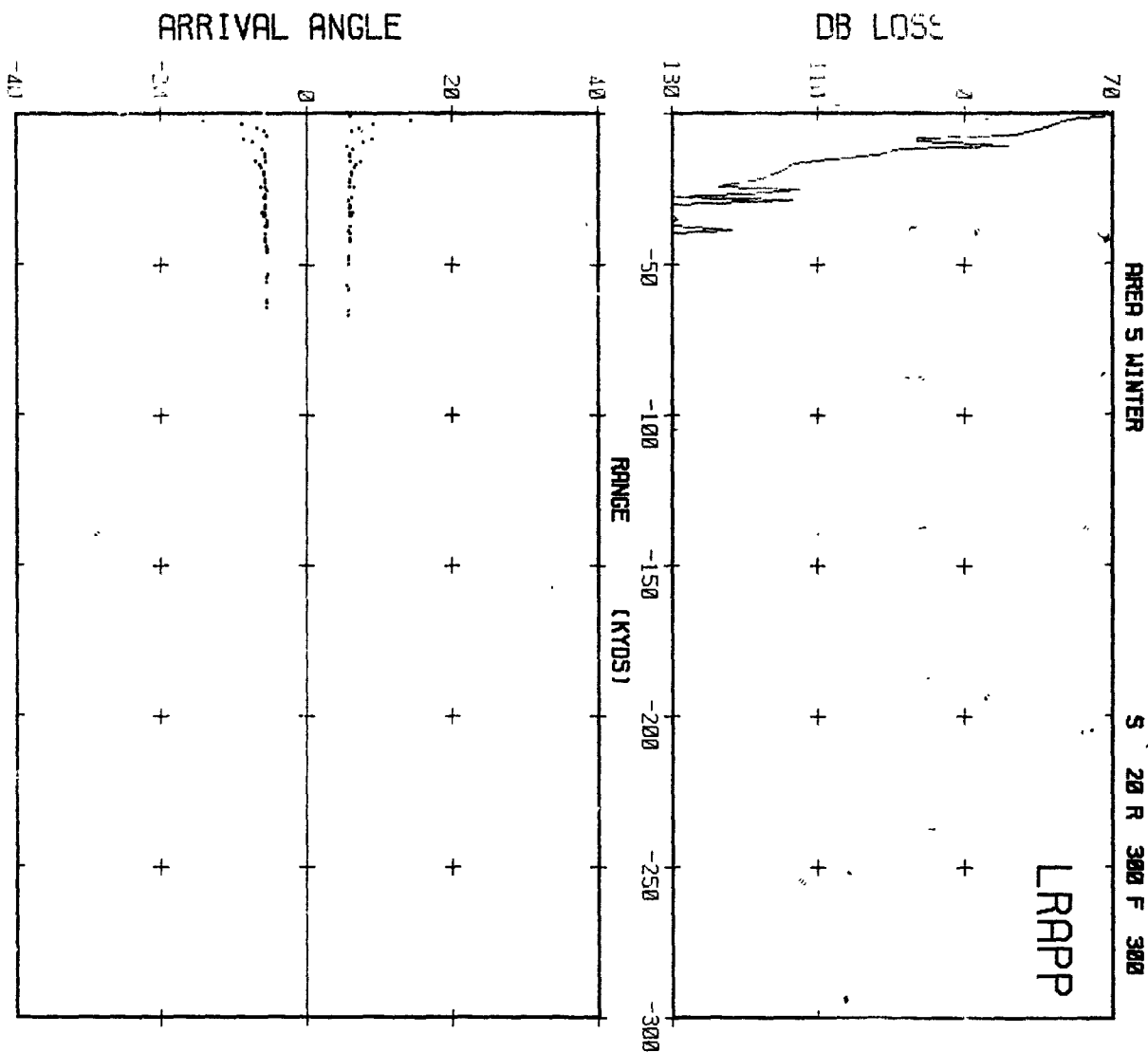
TOTAL -39.3 DB





11

11

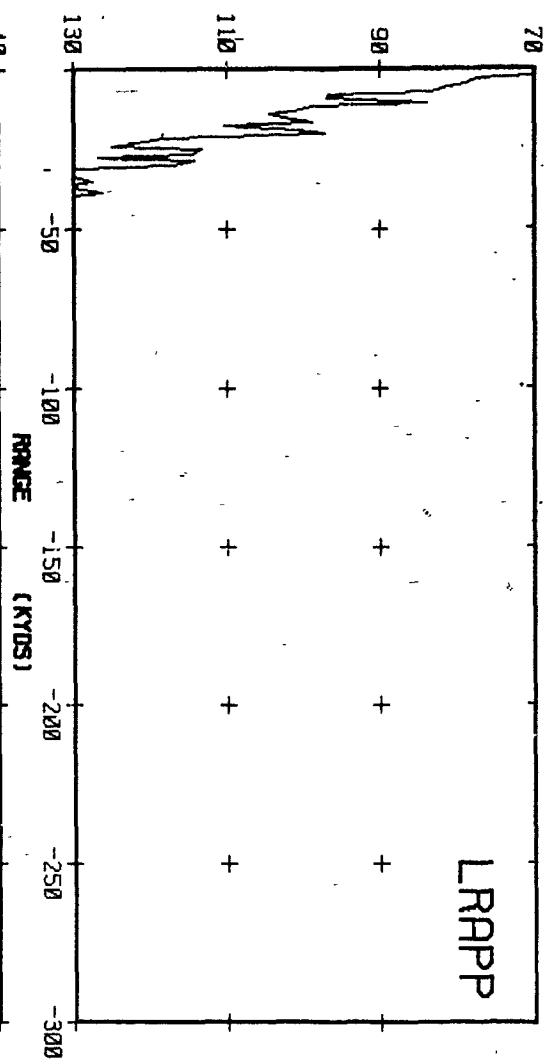


AREA 5 WINTER

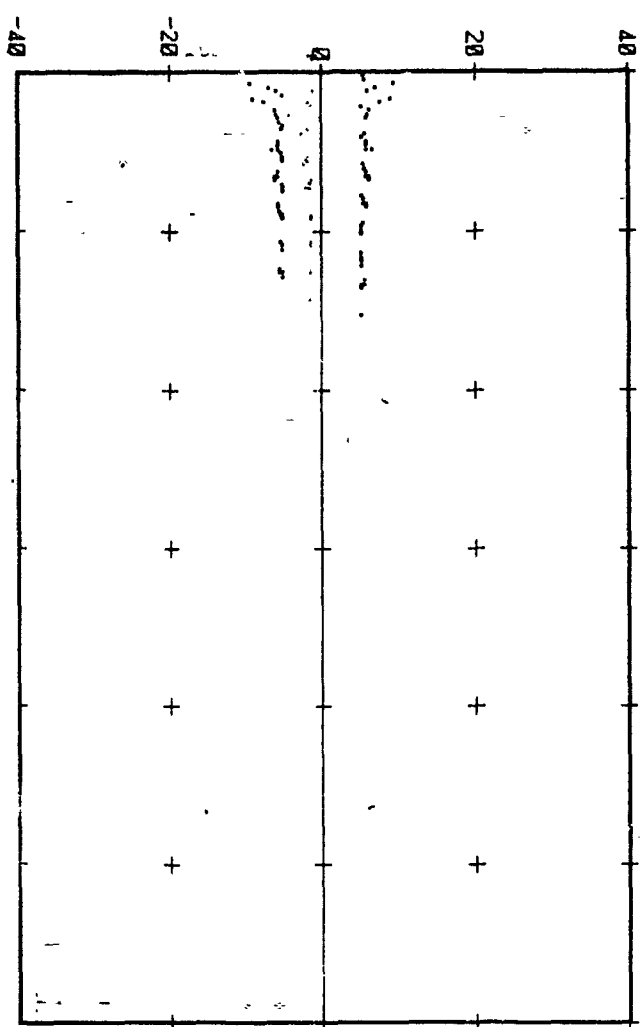
S 50 R 300 F 300

1450 M/S 1500 1550

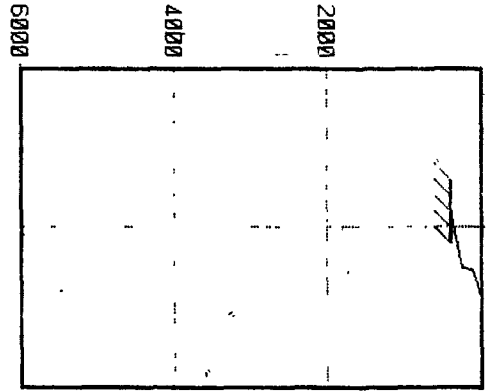
DB LOSS



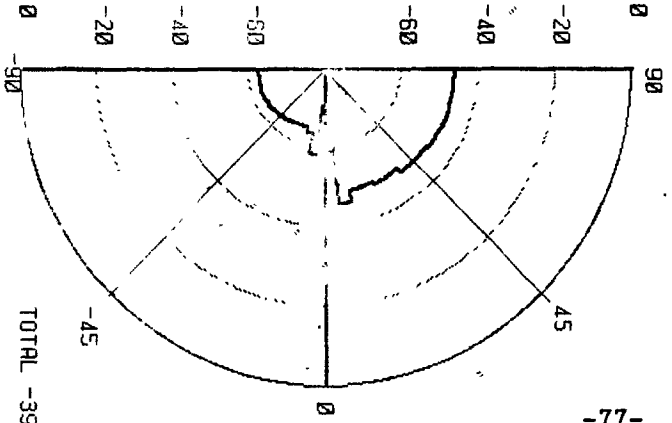
ARRIVAL ANGLE



DEPTH IN METERS

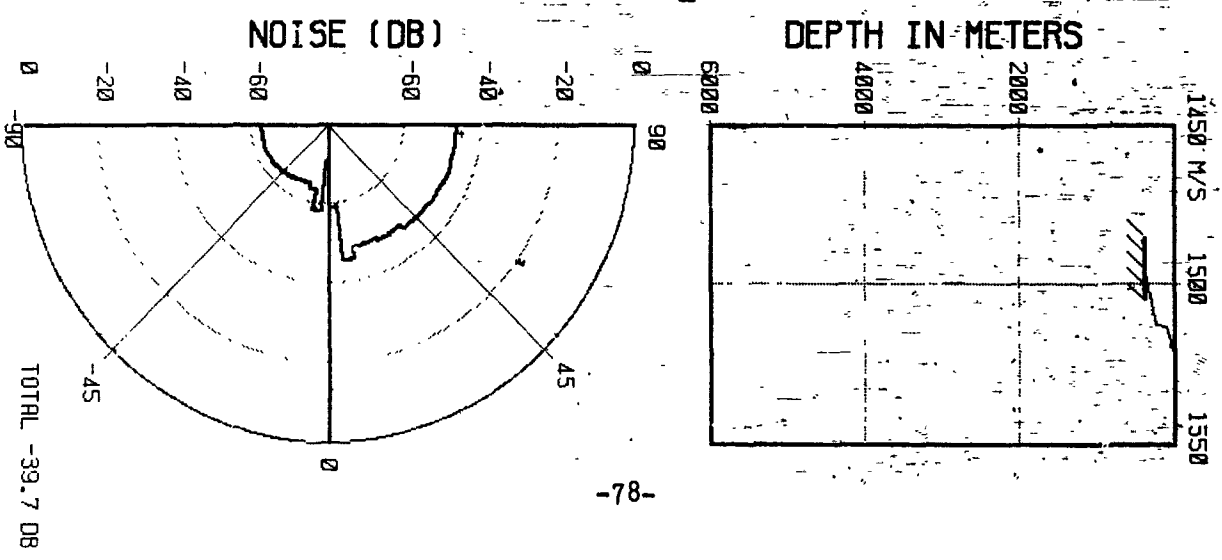
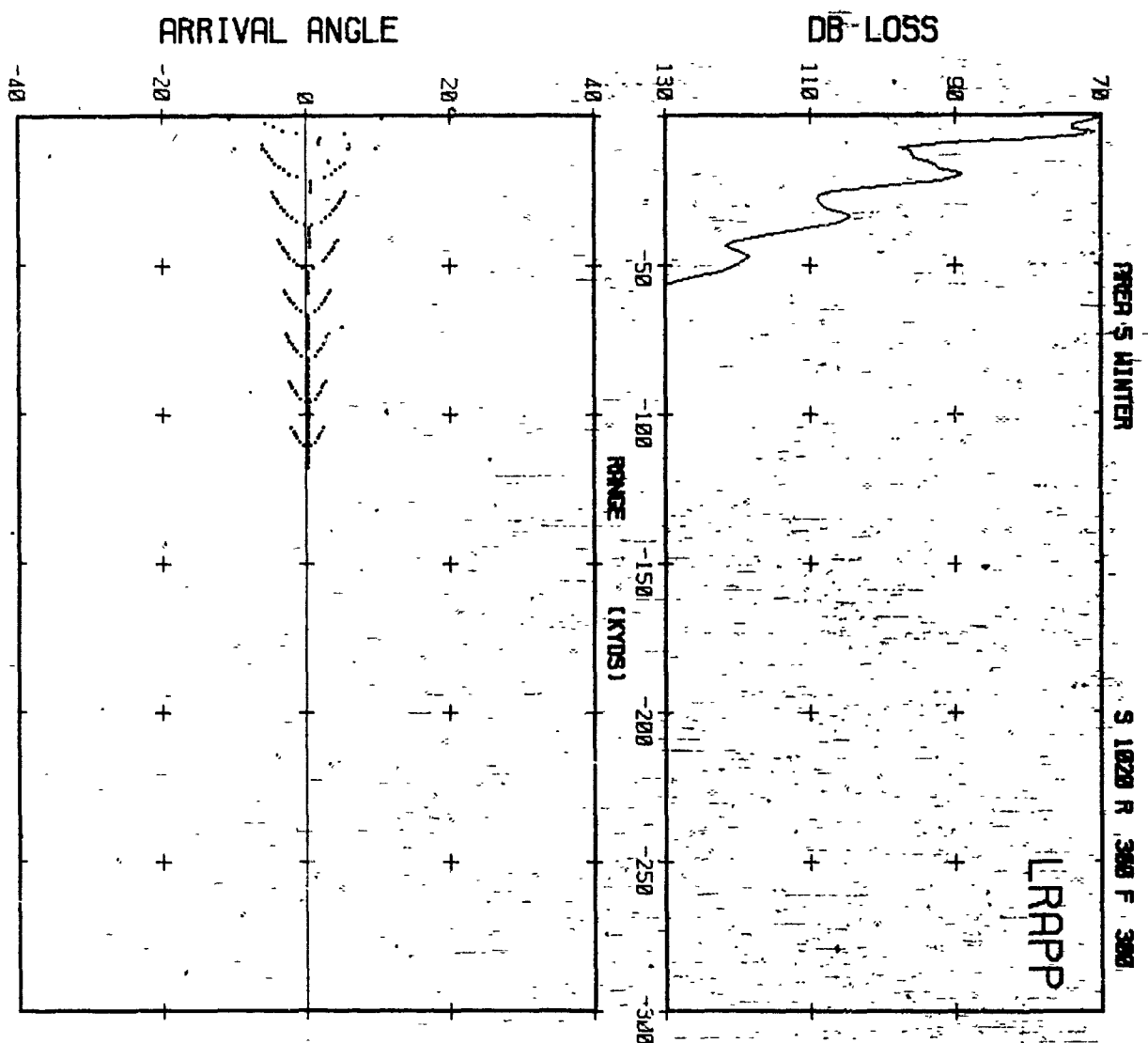


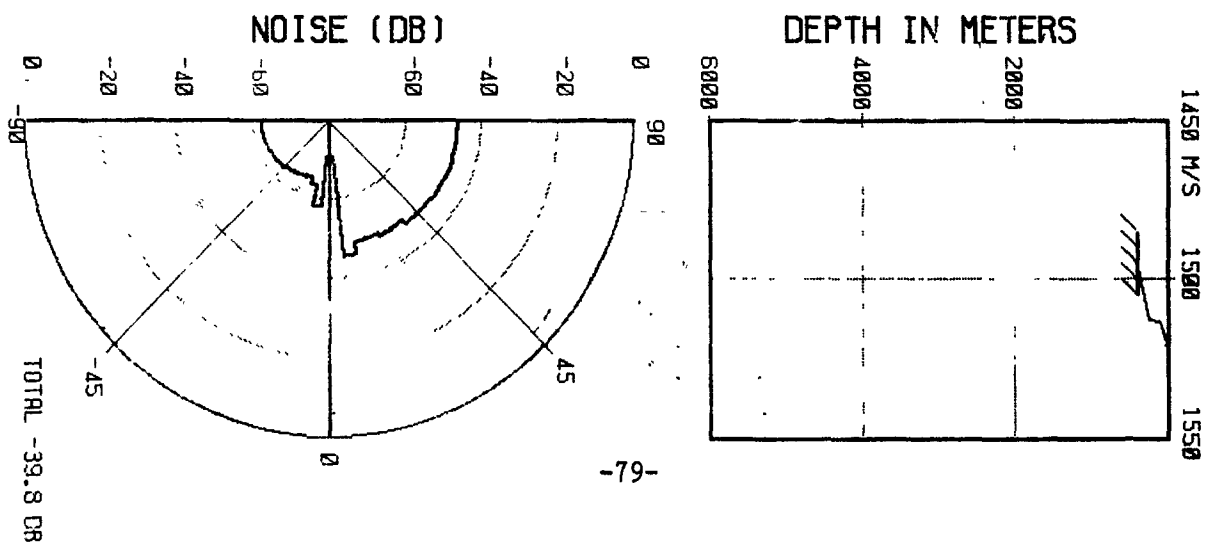
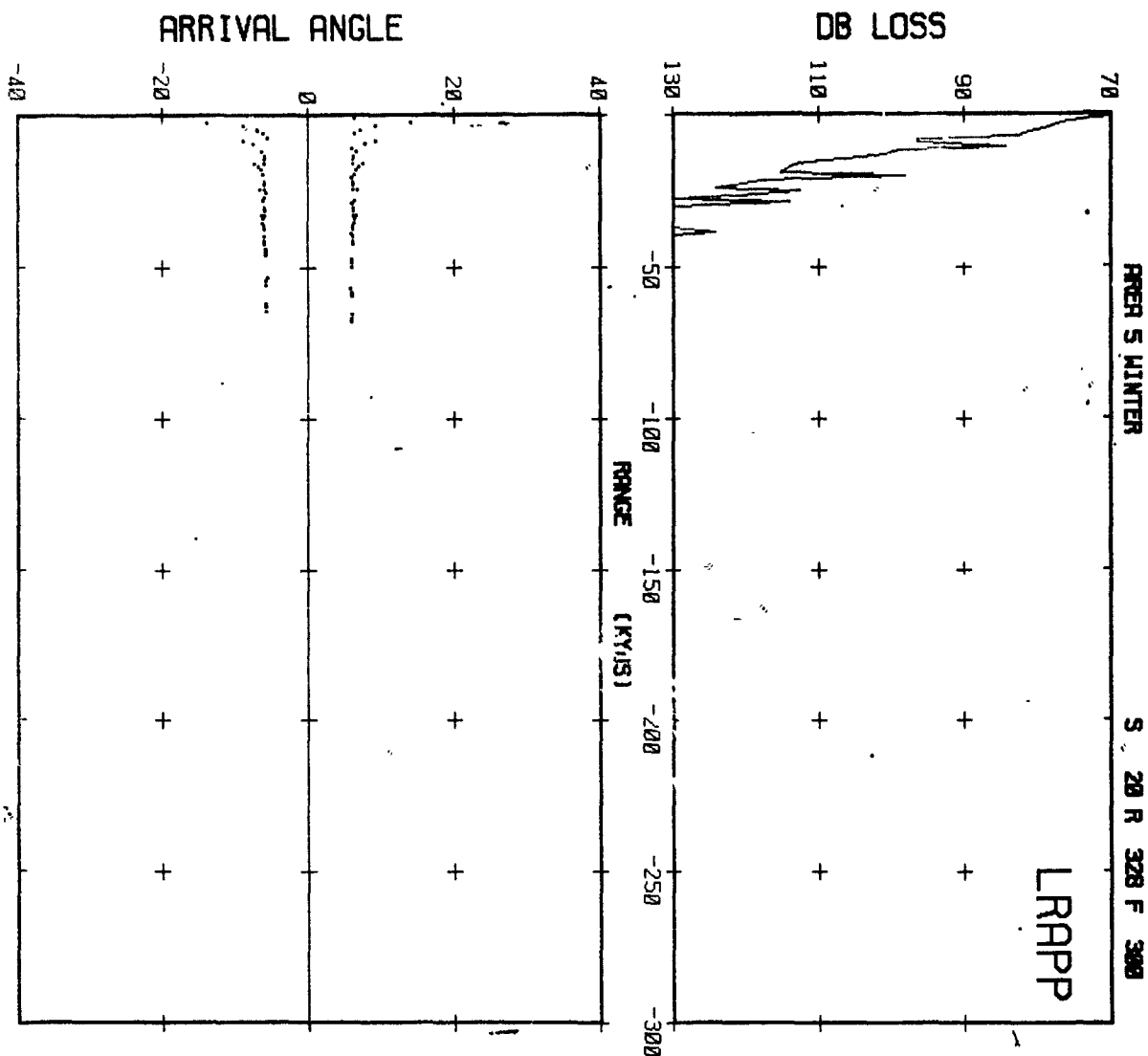
NOISE (DB)



TOTAL -39.7 DB

7





11

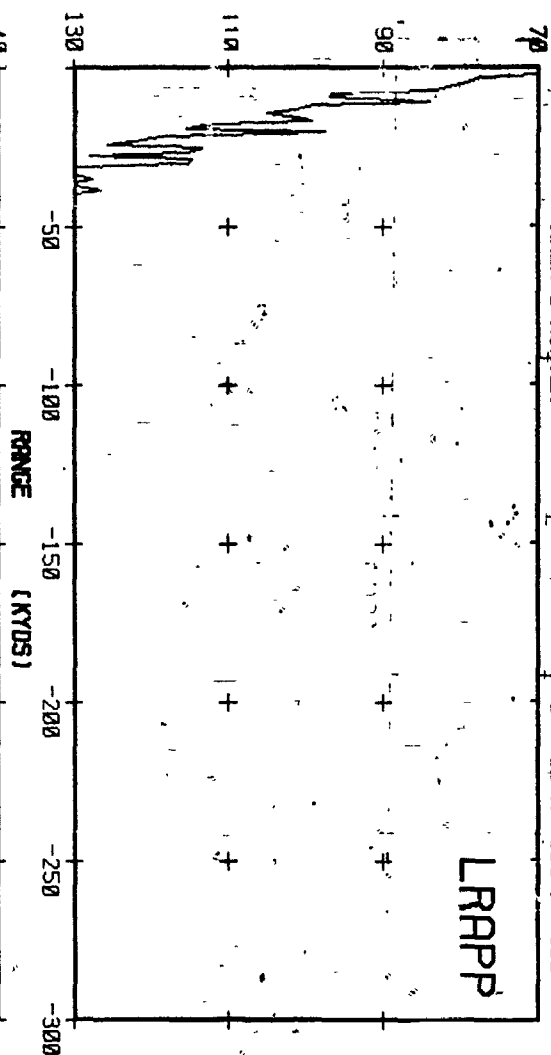
11

AREA 5 WINTER

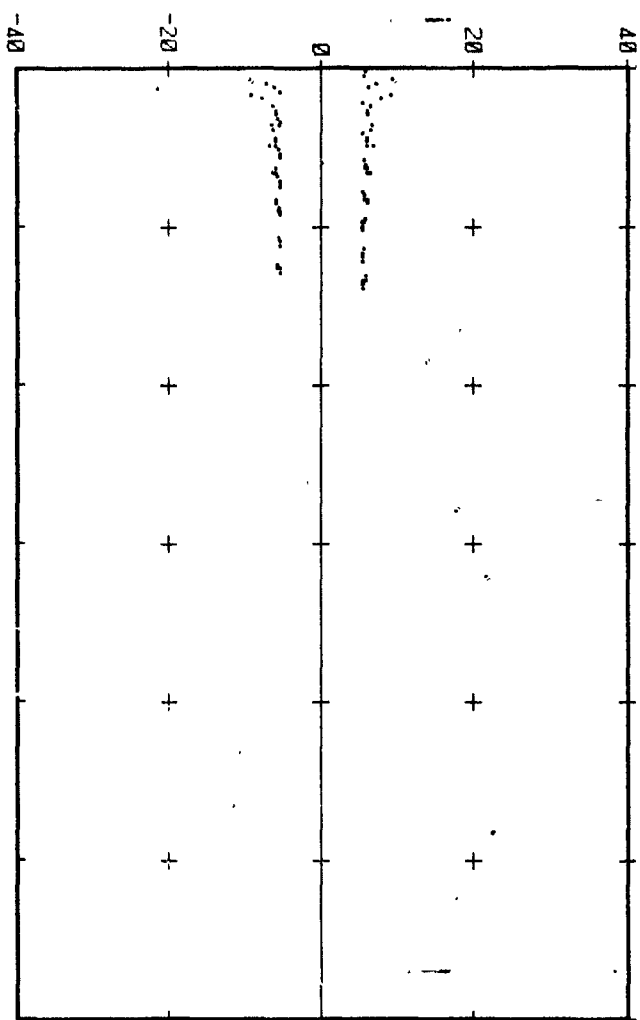
S 50 R 328 F 300

1450 W/S 1500 1550

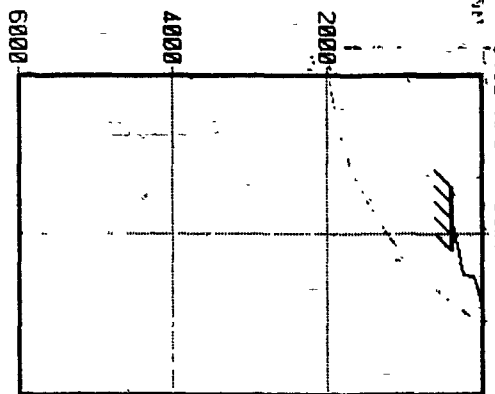
DB LOSS



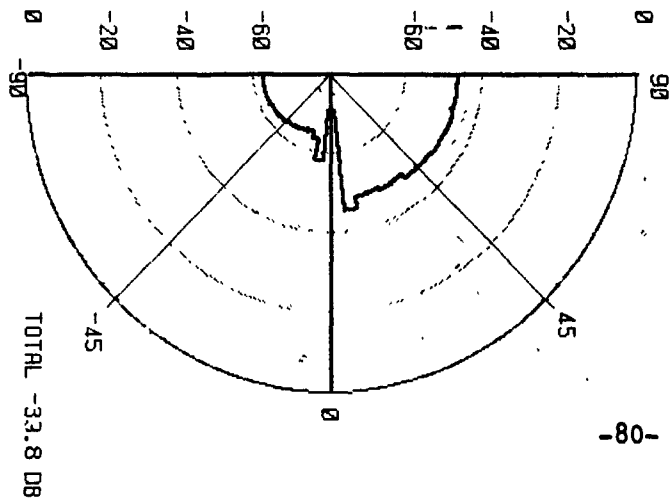
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

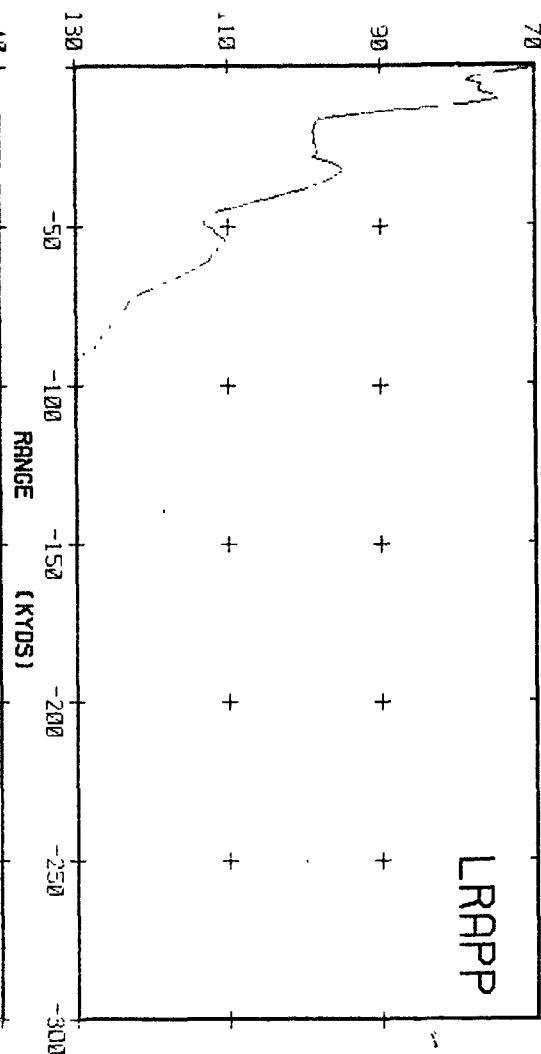


AREA 5 WINTER

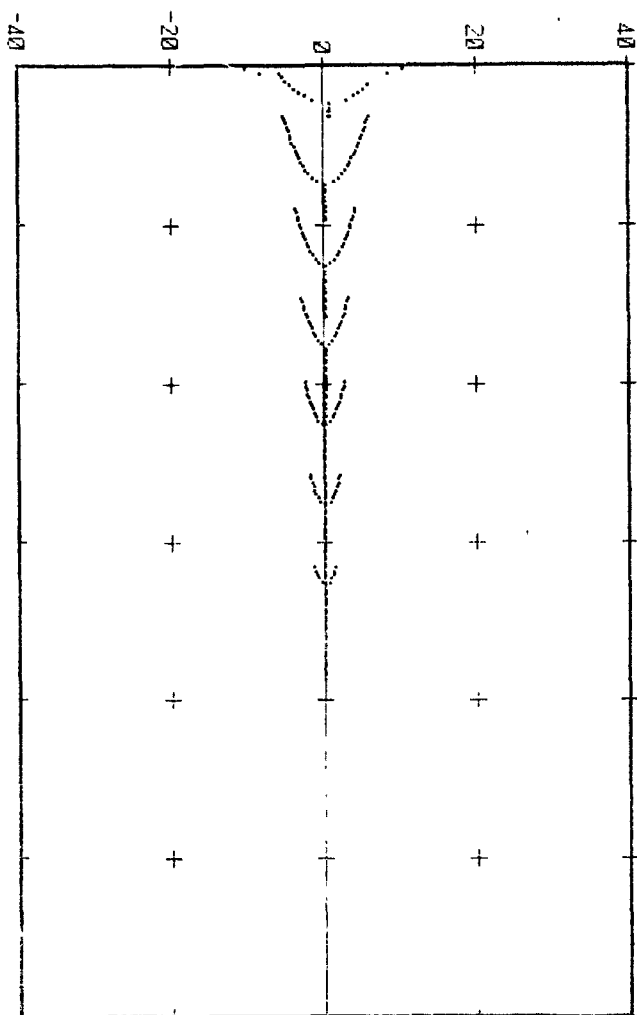
S 1020 R 328 F 300

1450 M/S 1500 1550

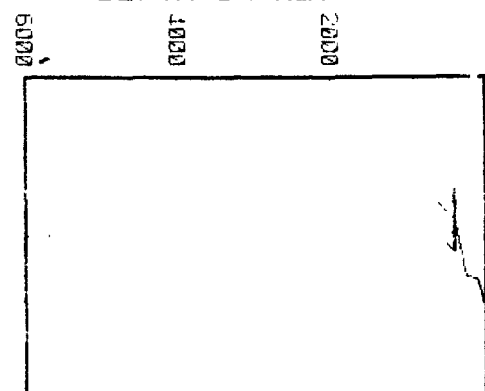
DB LOSS



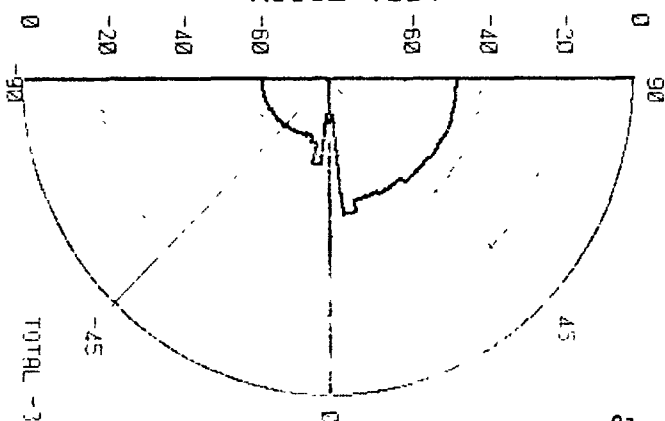
ARRIVAL ANGLE

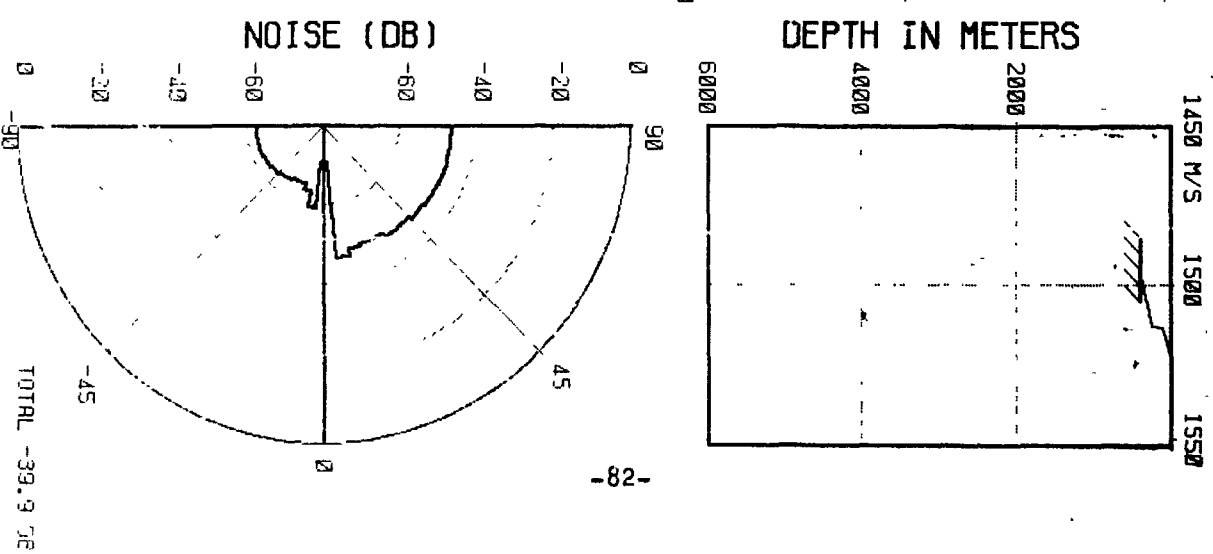
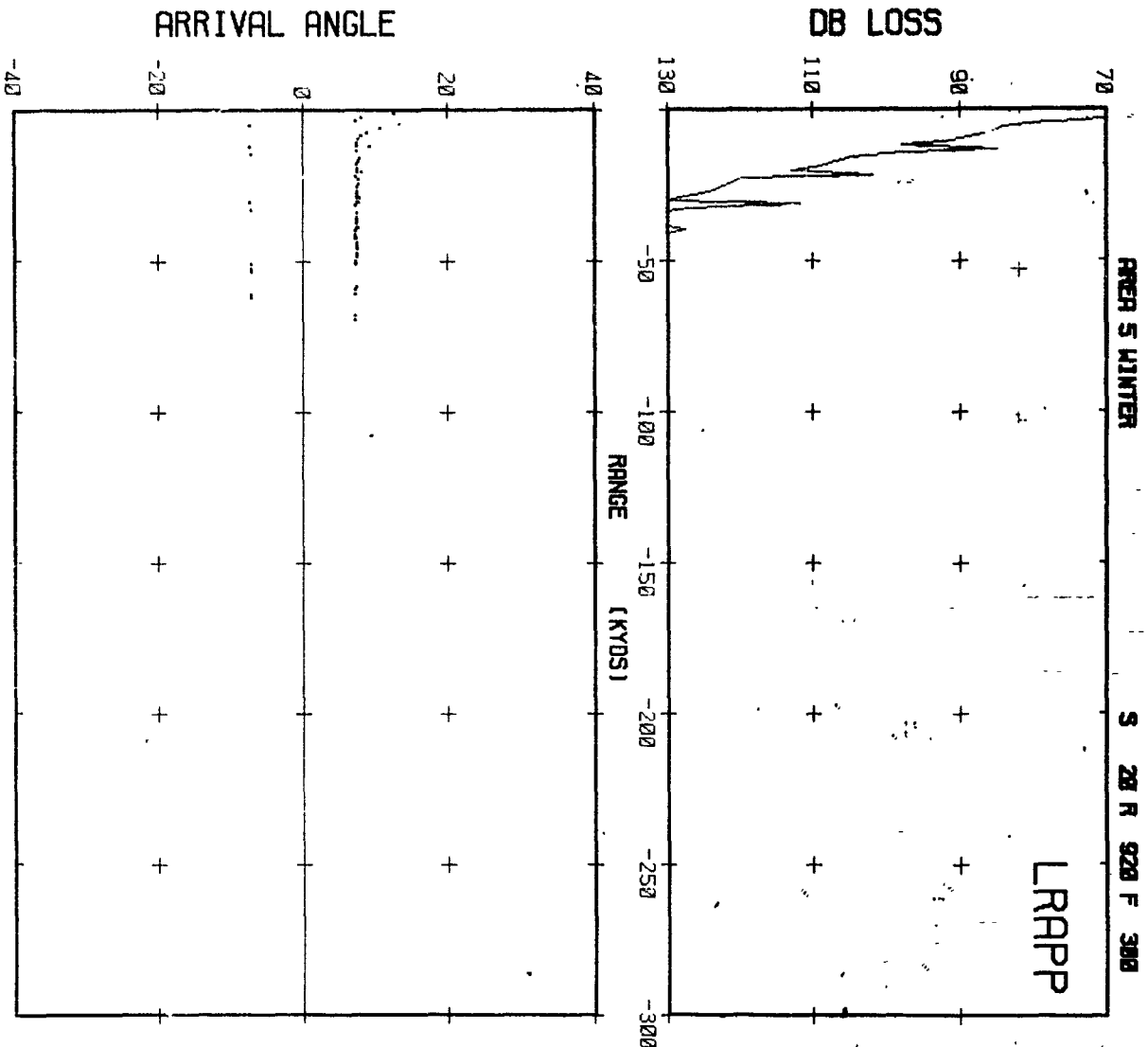


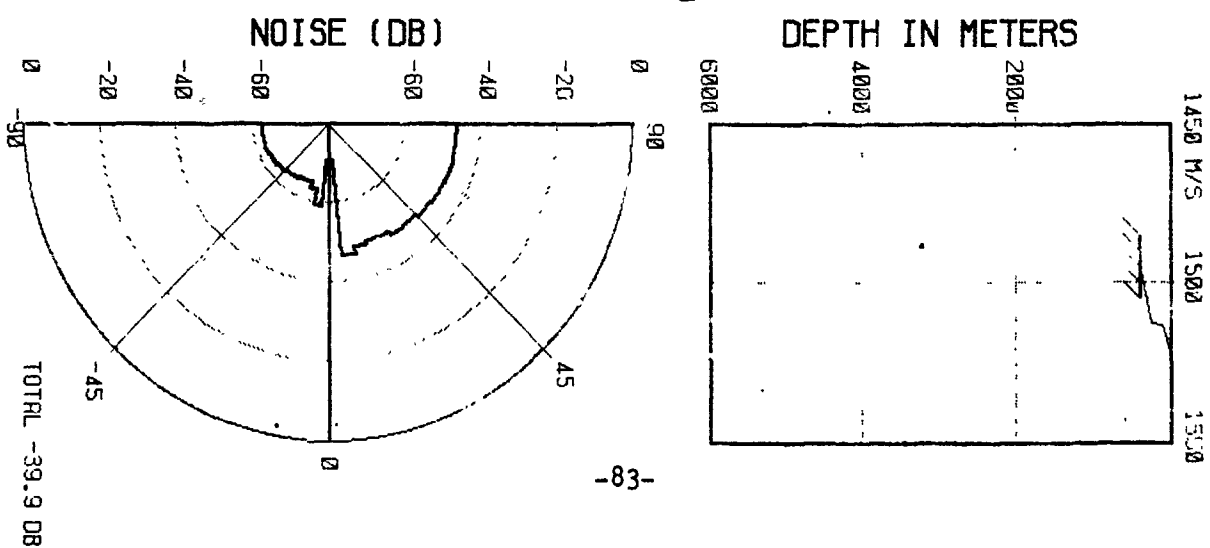
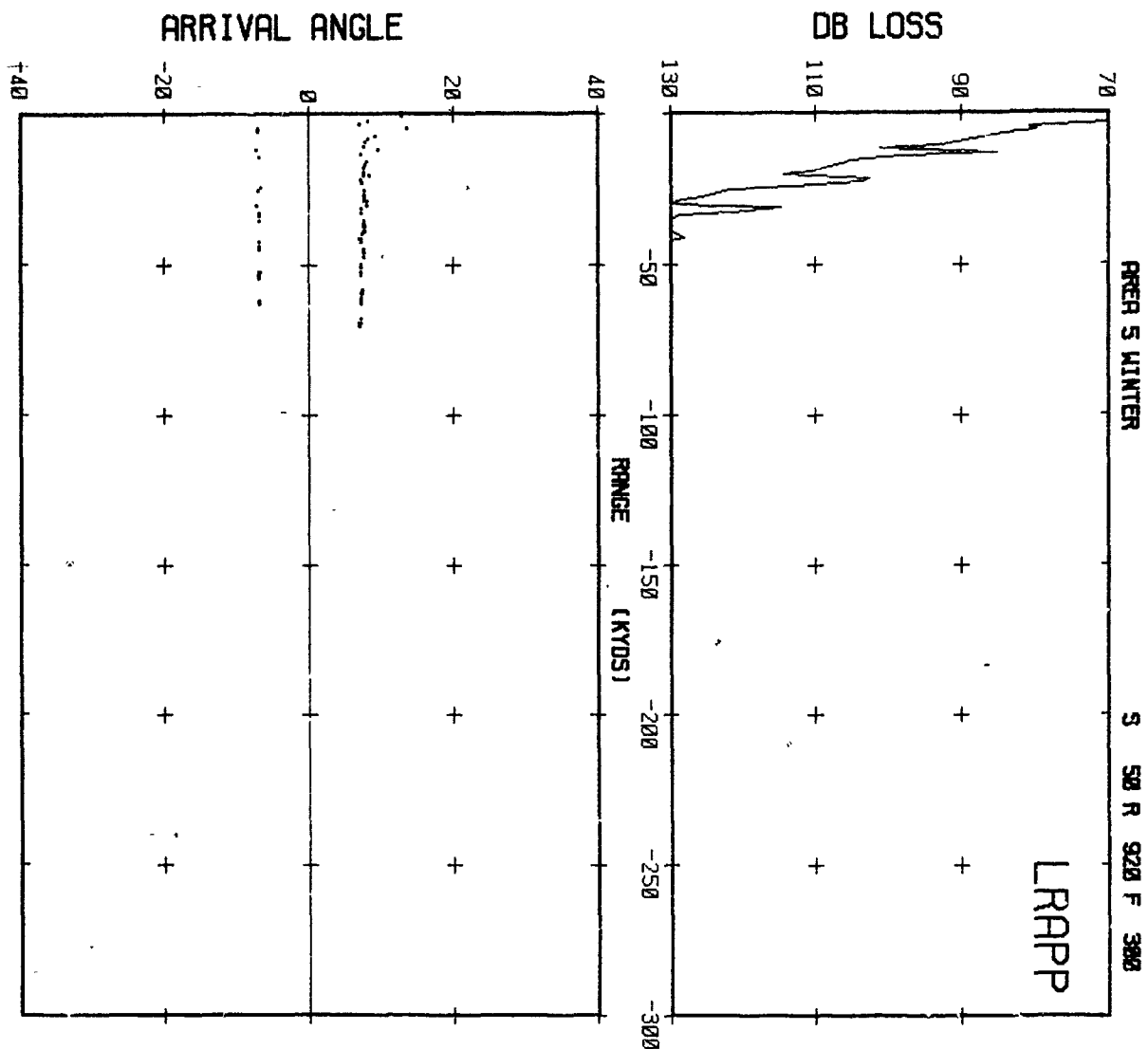
DEPTH IN METERS



NOISE (DB)





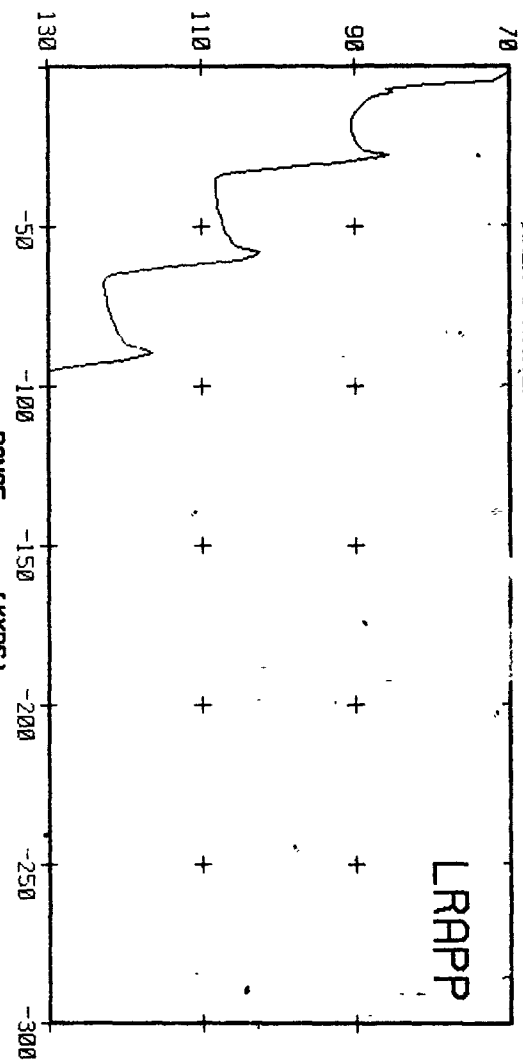


1 2 3 4 5 6 7 8 9 10 11 12

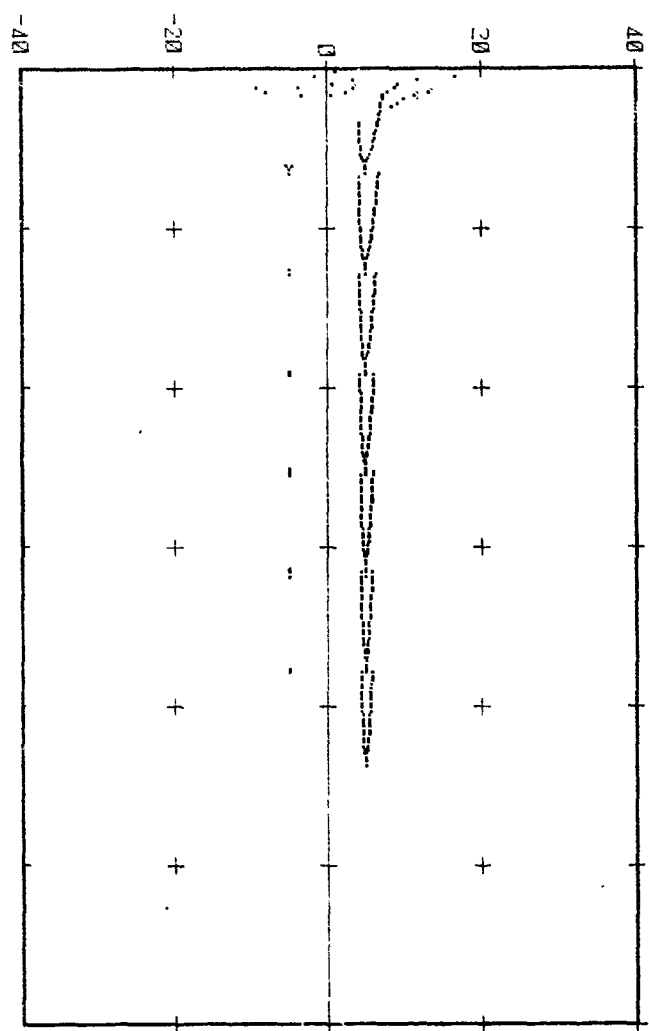
AREA 5 JITTER S 1020 R 920 F 300

LRAPP

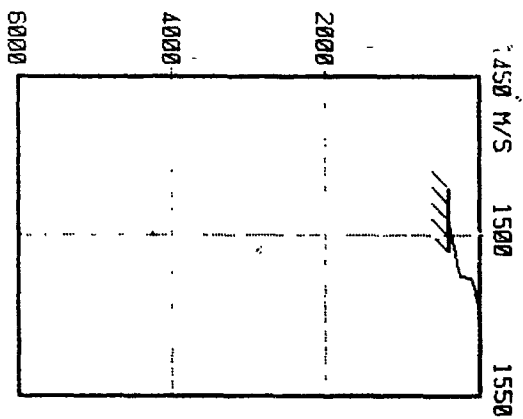
DB LOSS



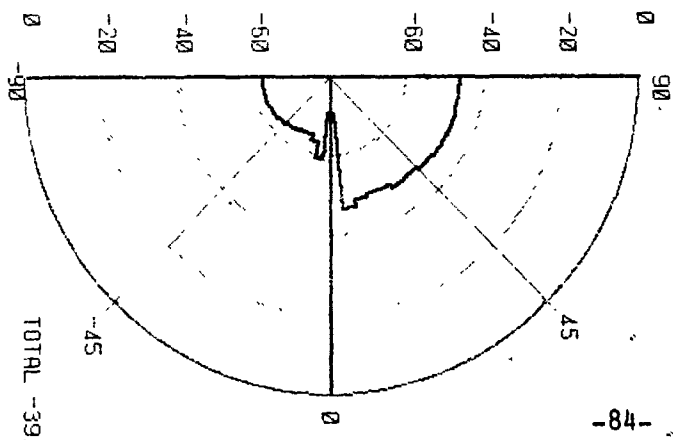
ARRIVAL ANGLE



DEPTH IN METERS

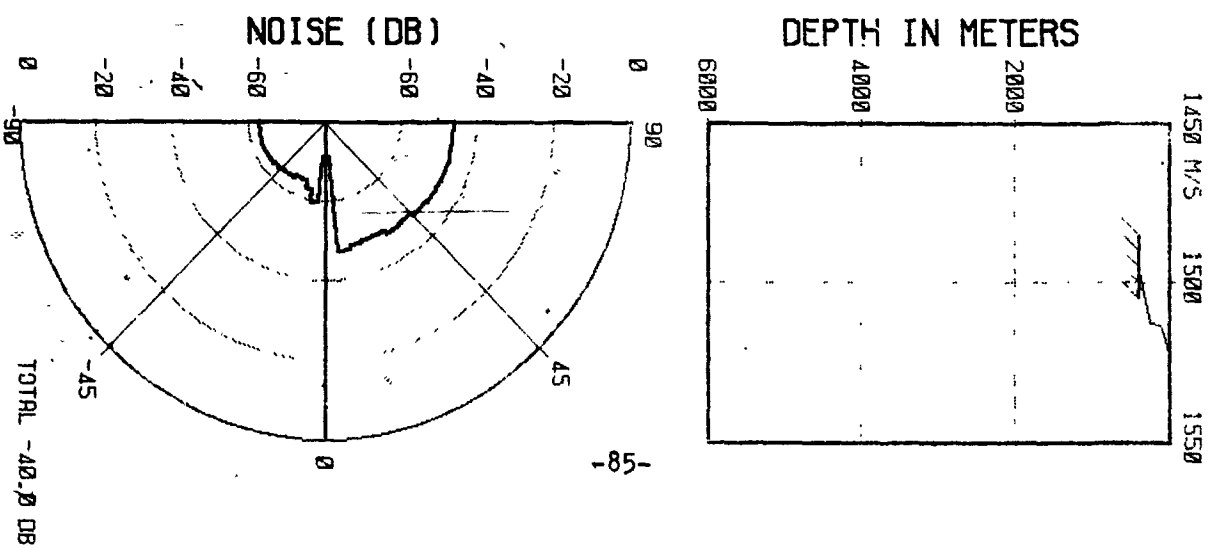
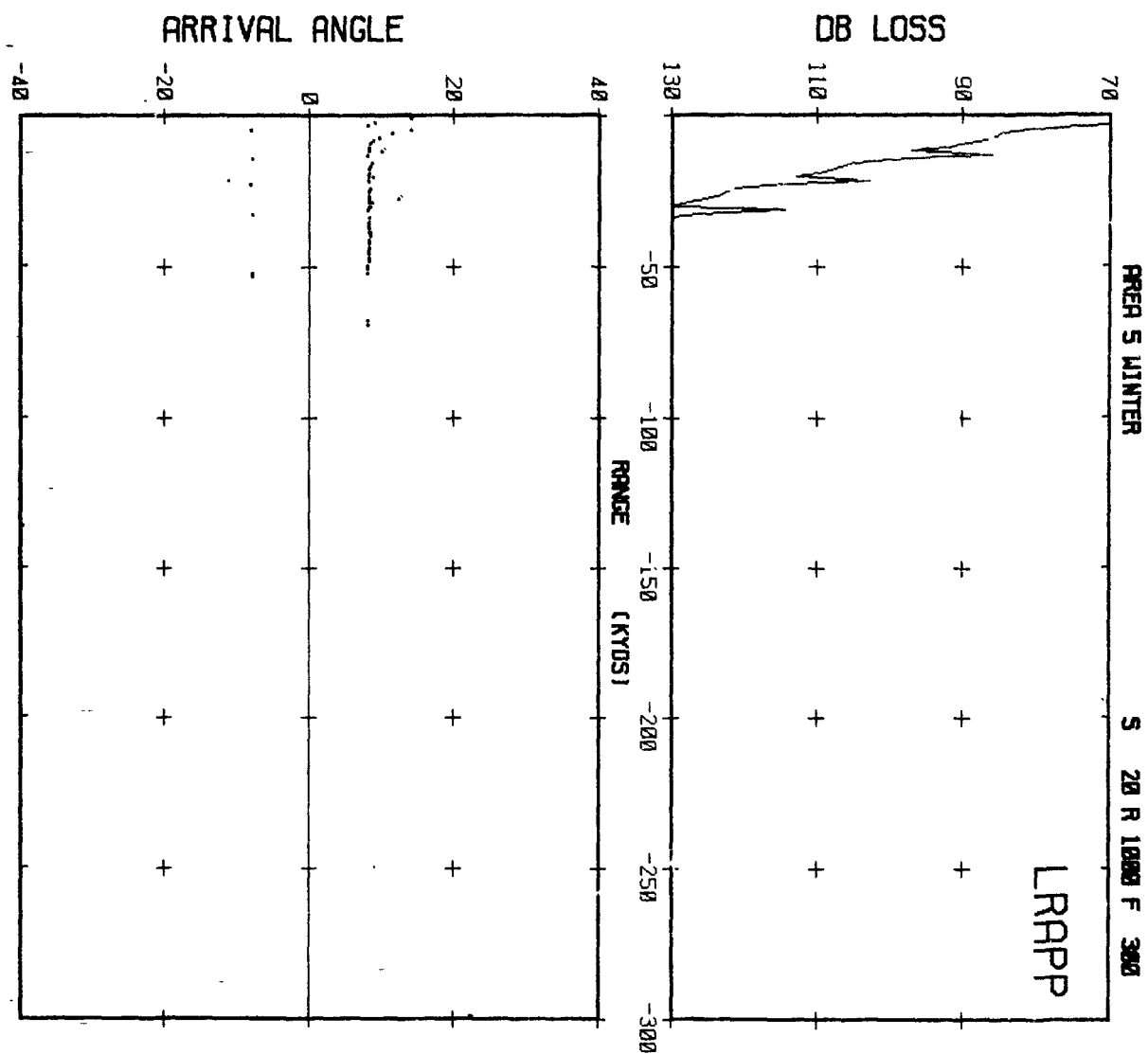


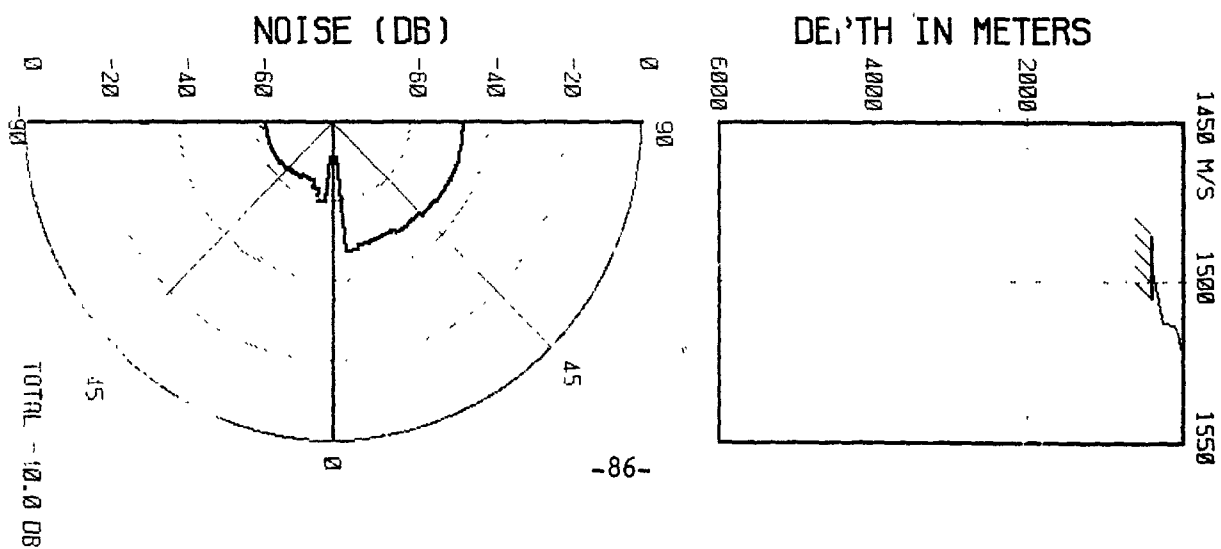
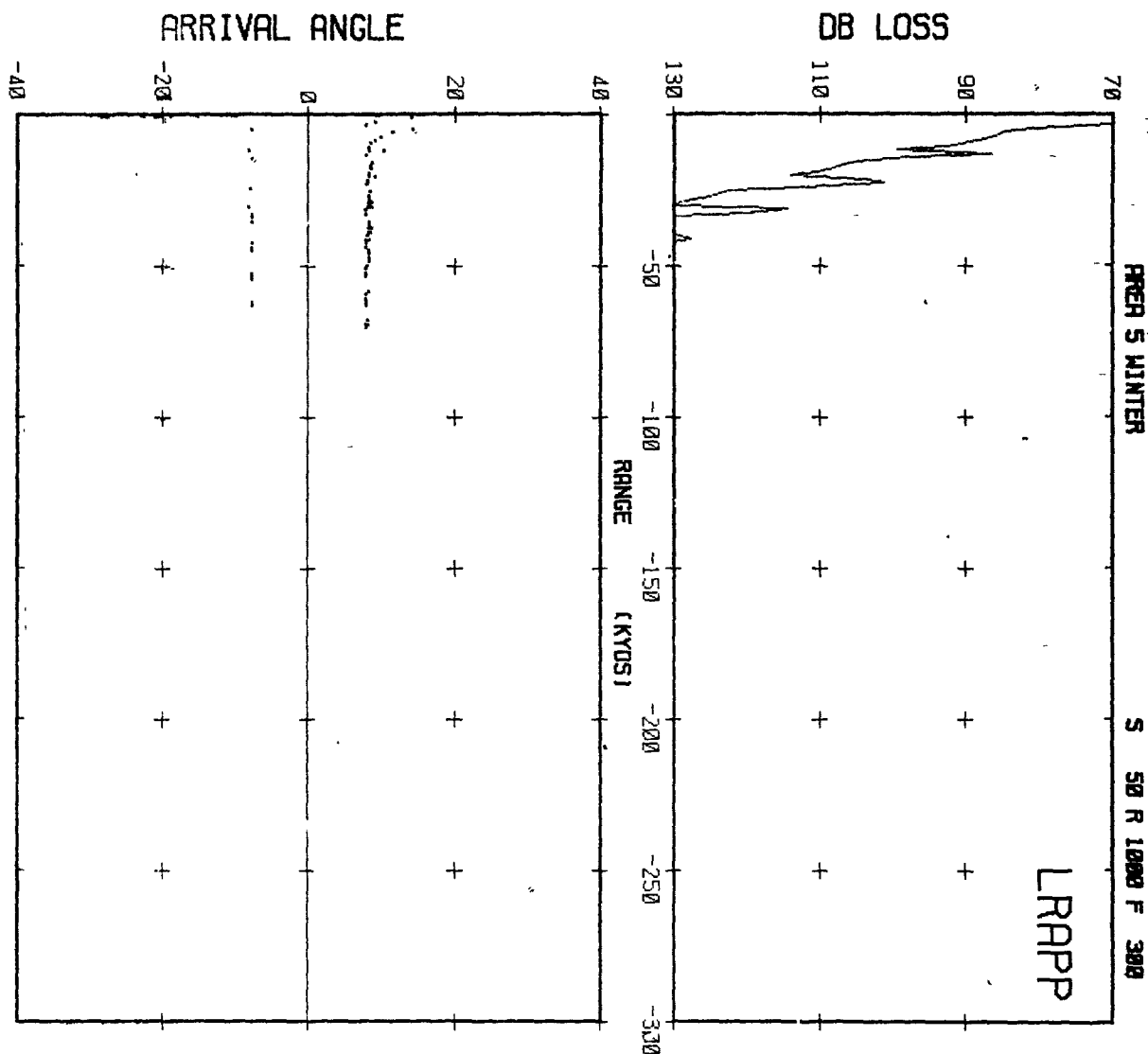
NOISE (DB)



TOTAL -39.9 DB

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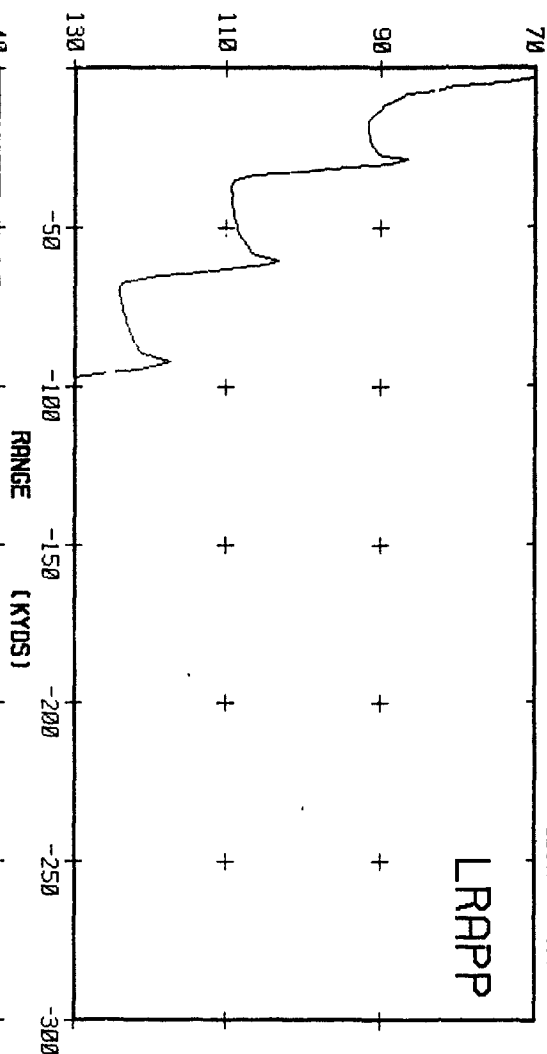


PRE S WINTER

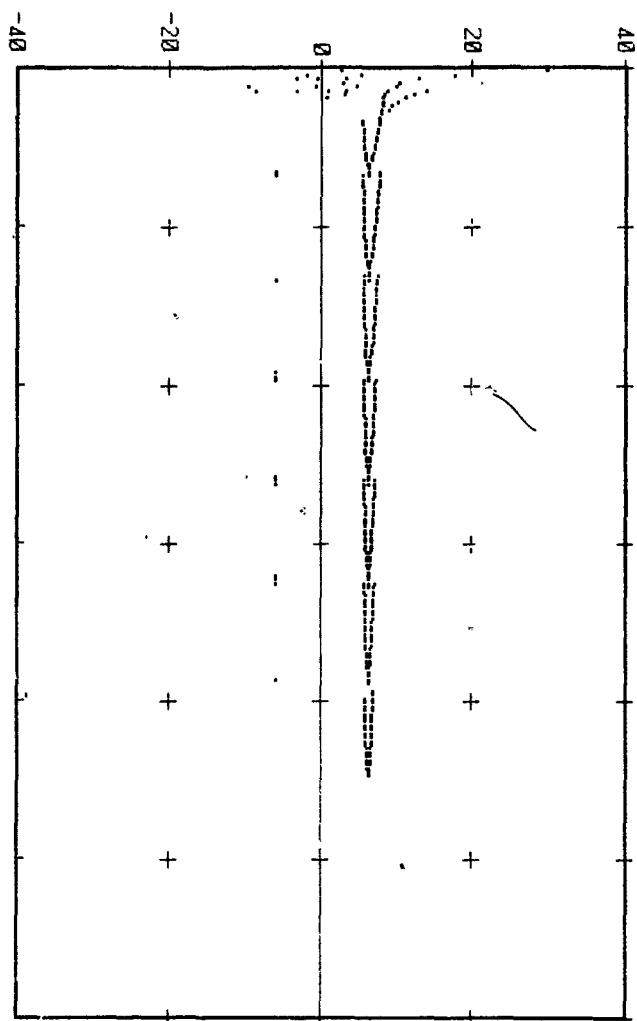
S 1020 R 1000 F 300

LRAPP

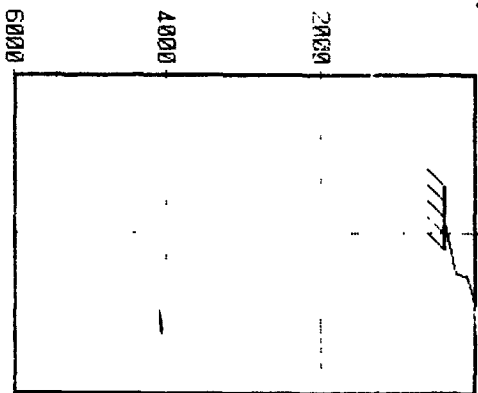
DB LOSS



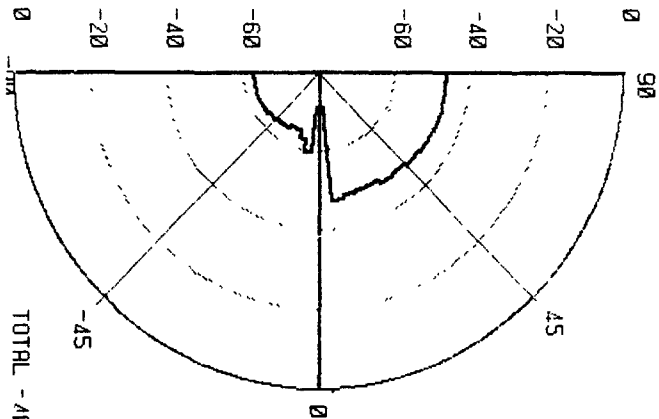
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



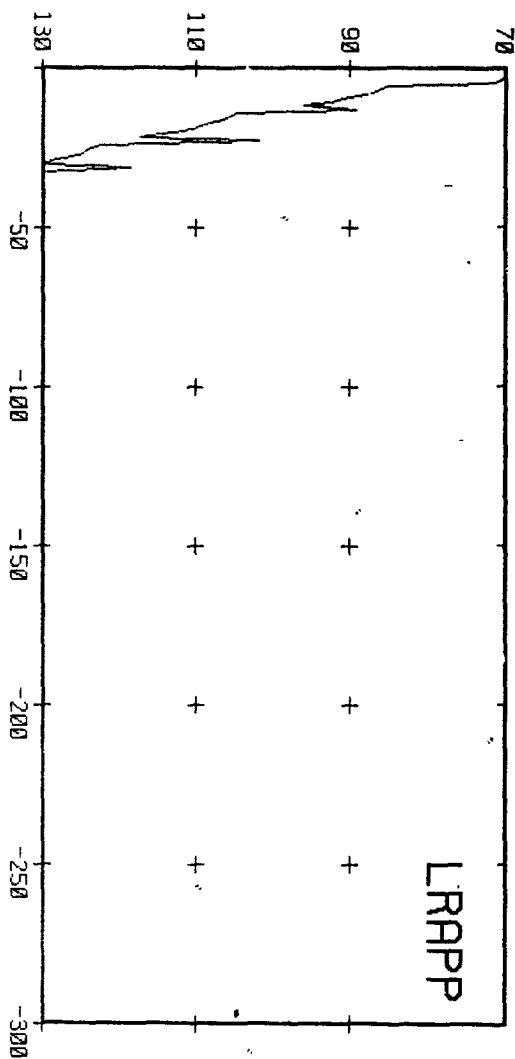
TOTAL -40.0 DB

PREA 5 WINTER

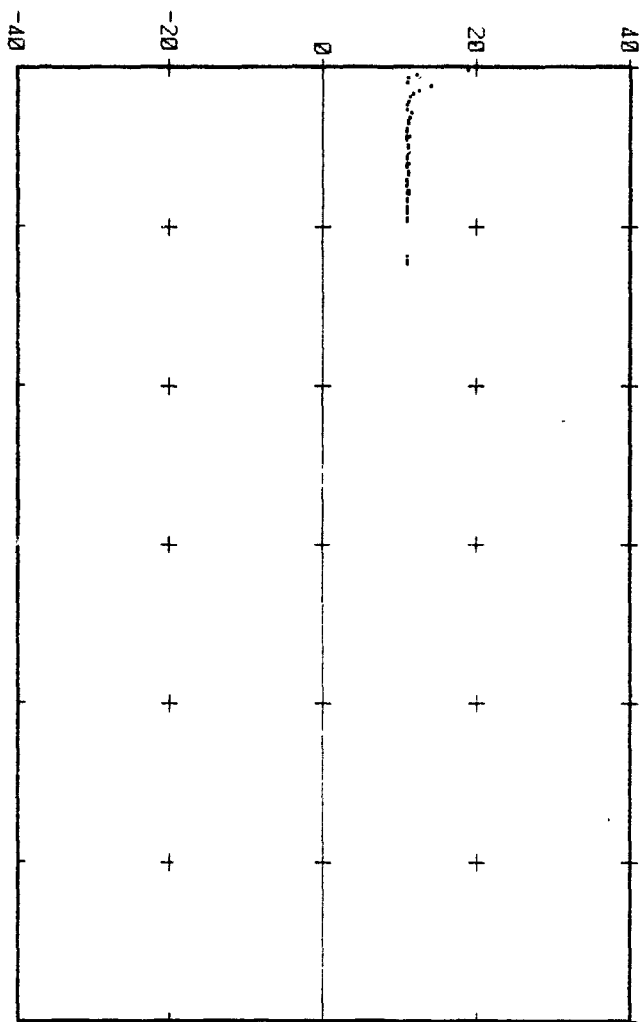
S 20 R 1312 F 300

LRAPP

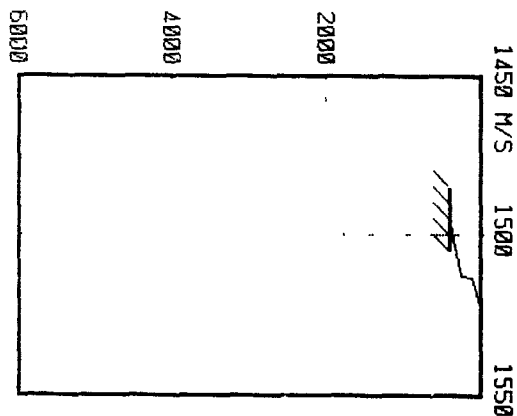
DB LOSS



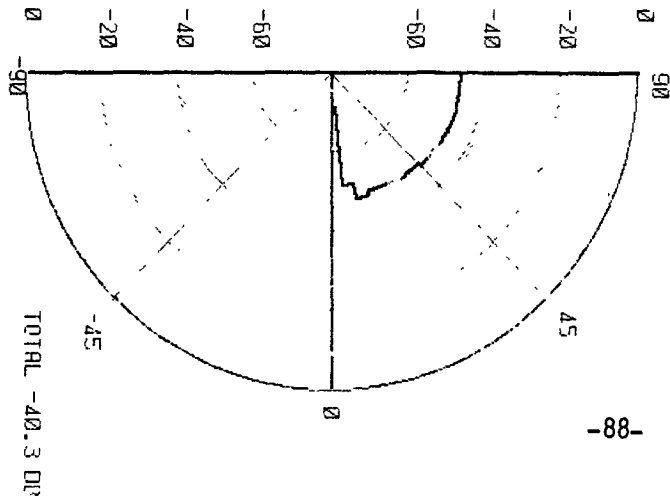
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

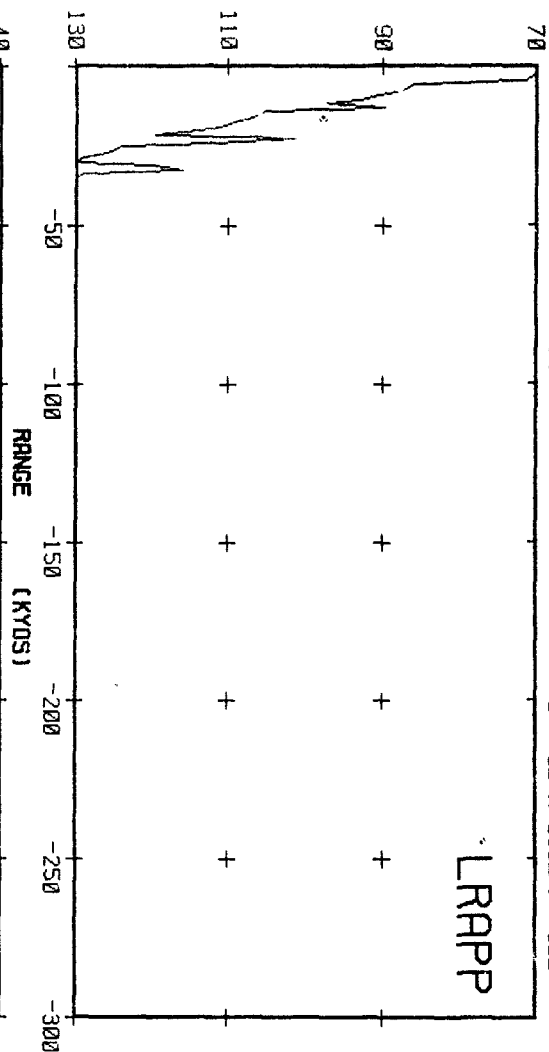


AREA 5 WINTER

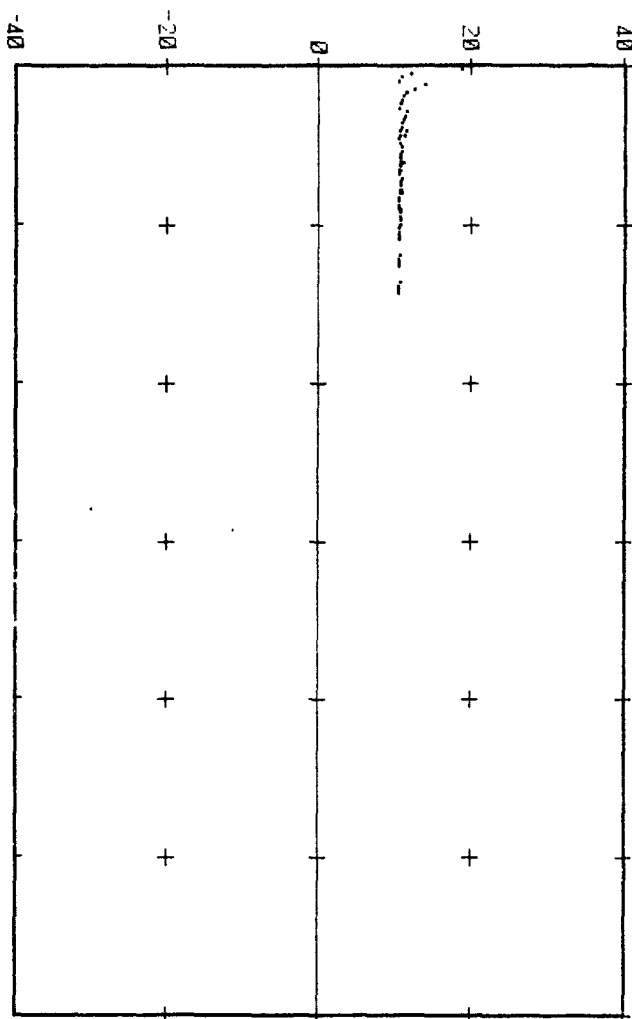
S 50 R 1312 F 300

LRAPP

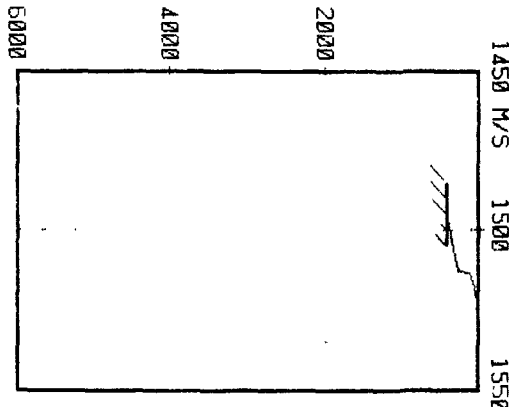
DB LOSS



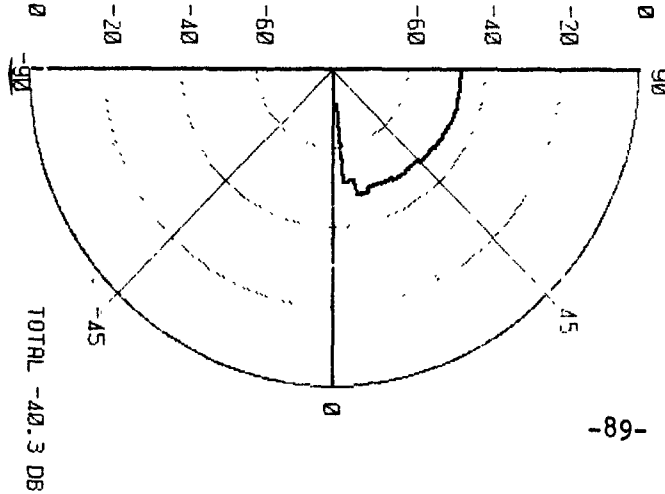
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



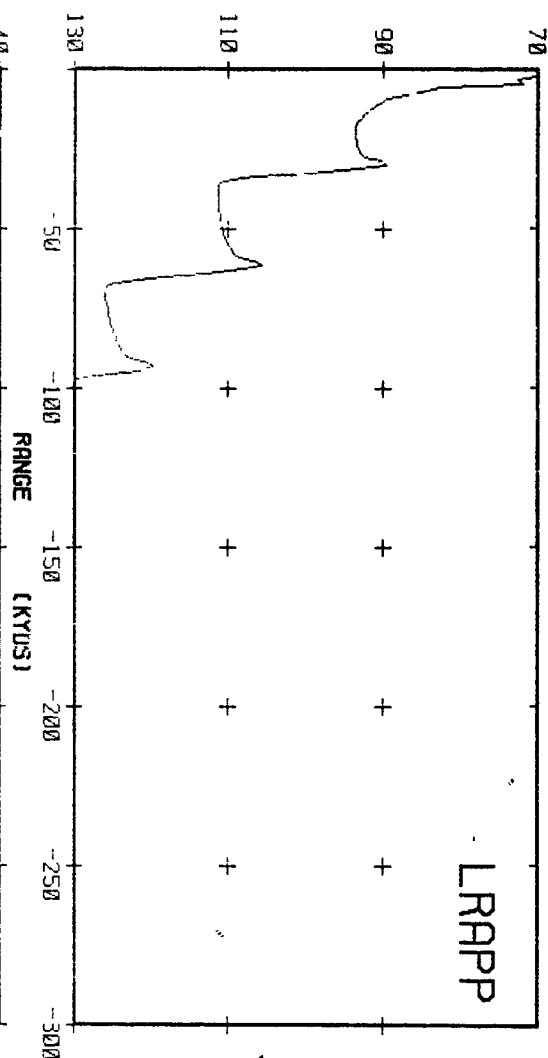
-89-

AREA 5 WINTER

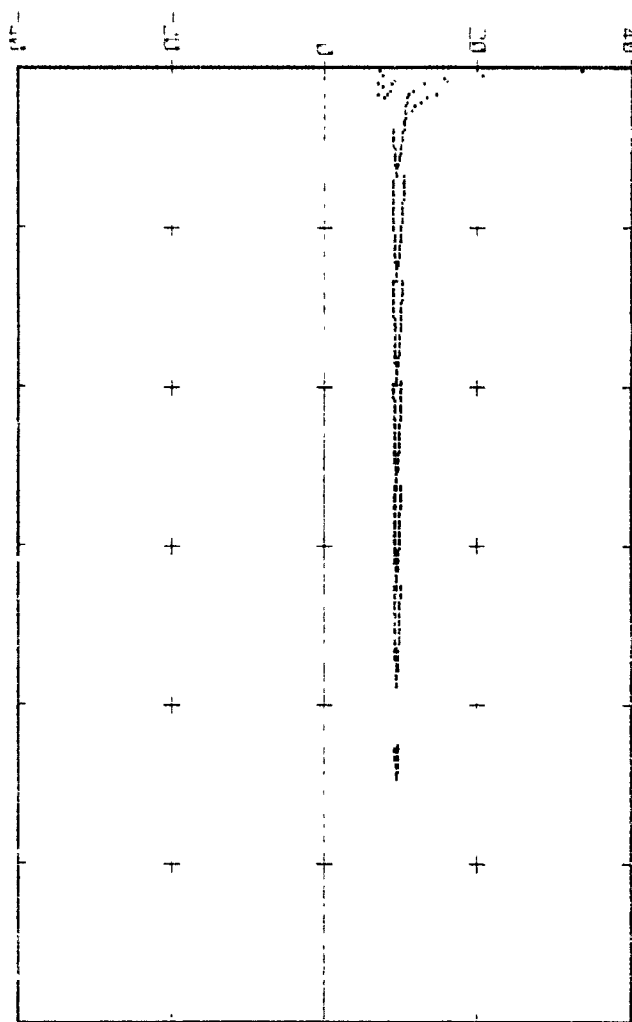
S 1020 R 1312 F 300

LRAPP

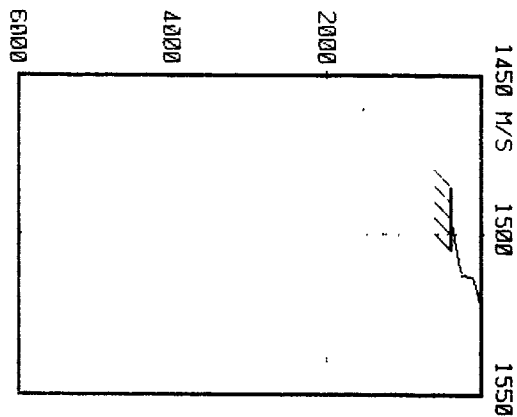
DB LOSS



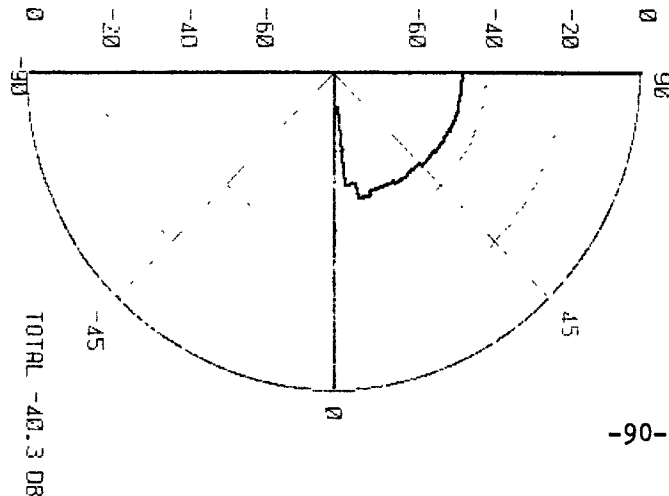
ARRIVAL ANGLE

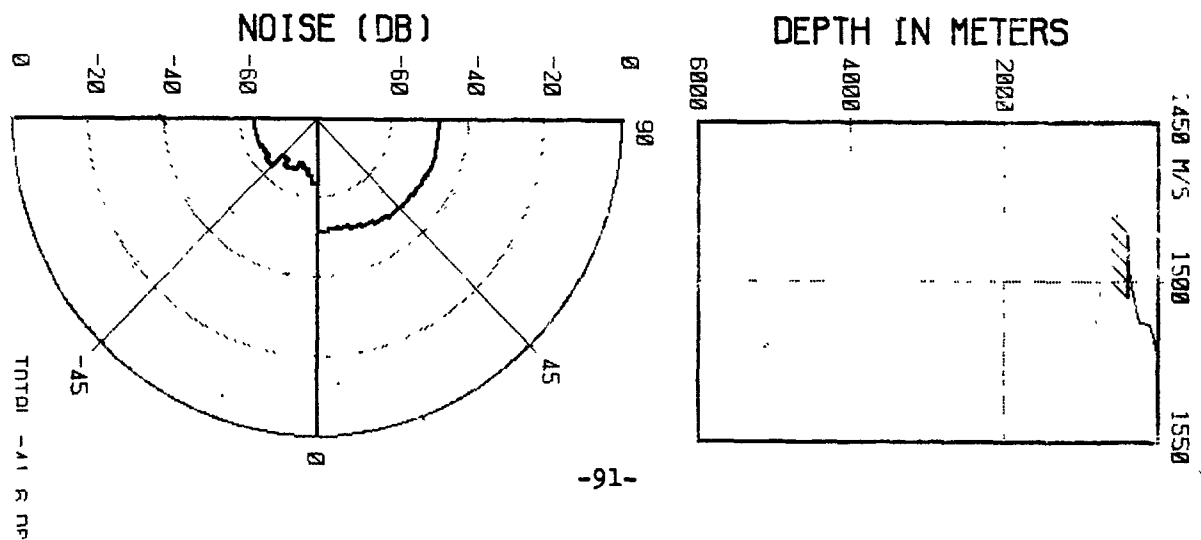
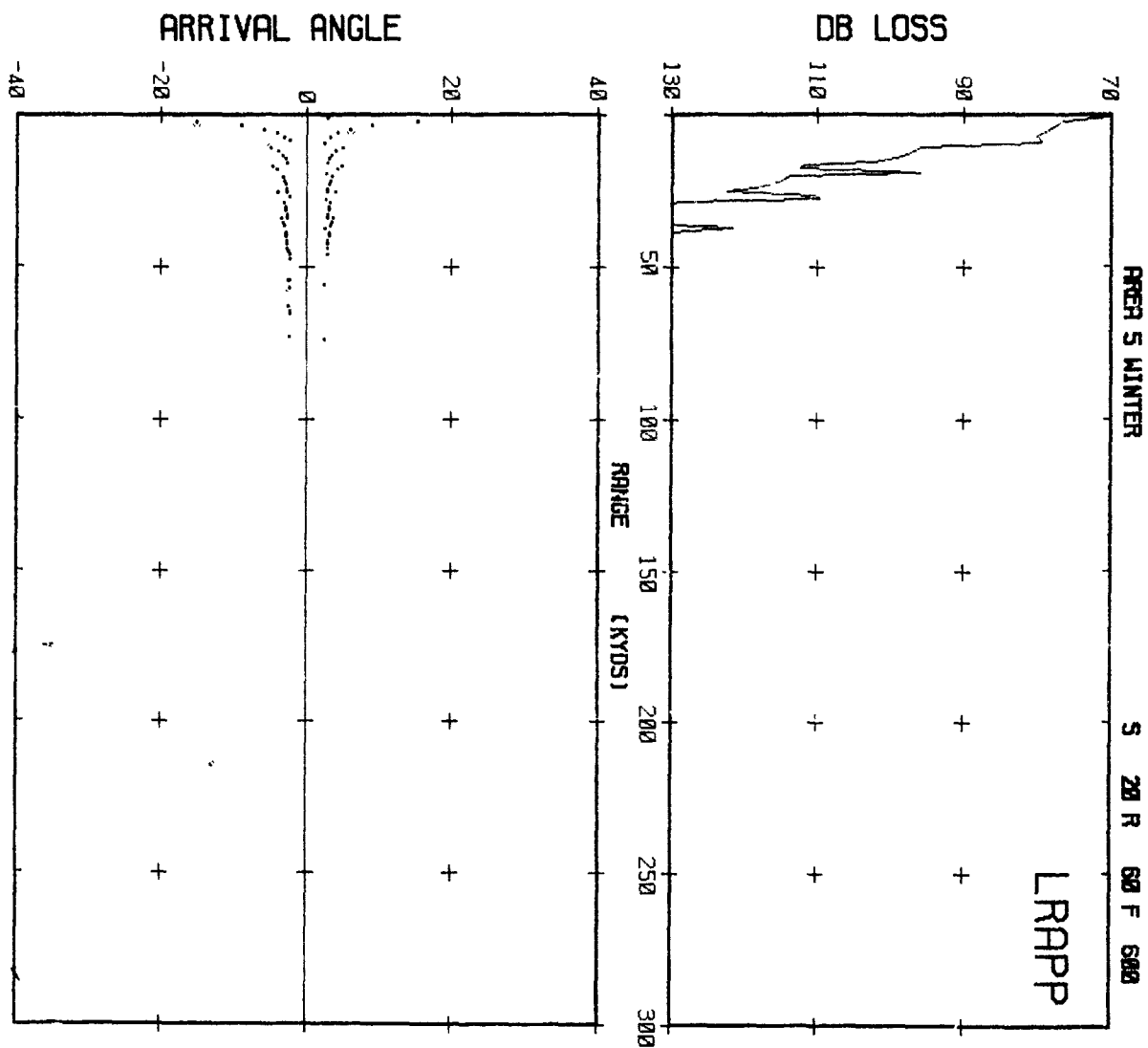


DEPTH IN METERS



NOISE (DB)





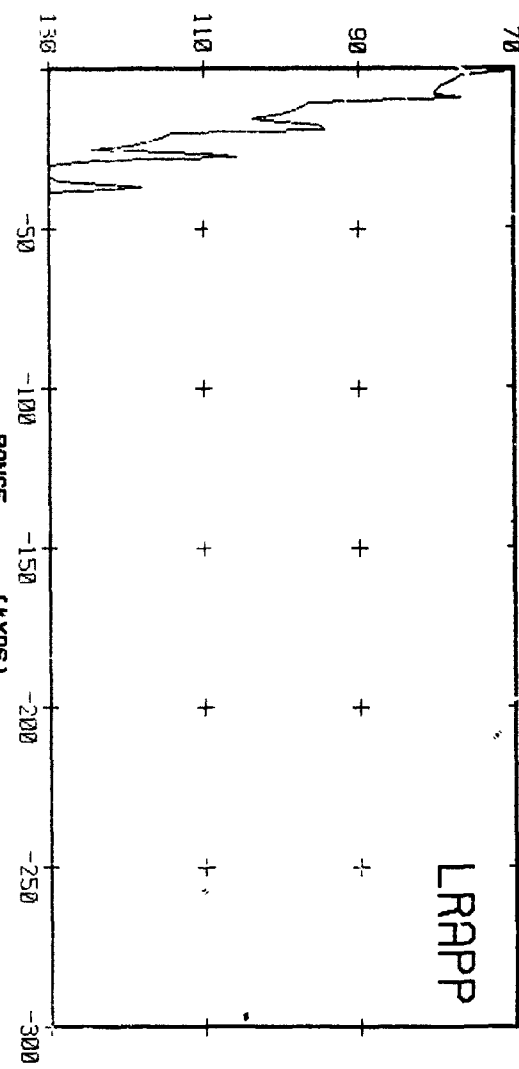
1. 1000 Hz
 2. 1000 Hz
 3. 1000 Hz
 4. 1000 Hz

ARR 5 WINTER

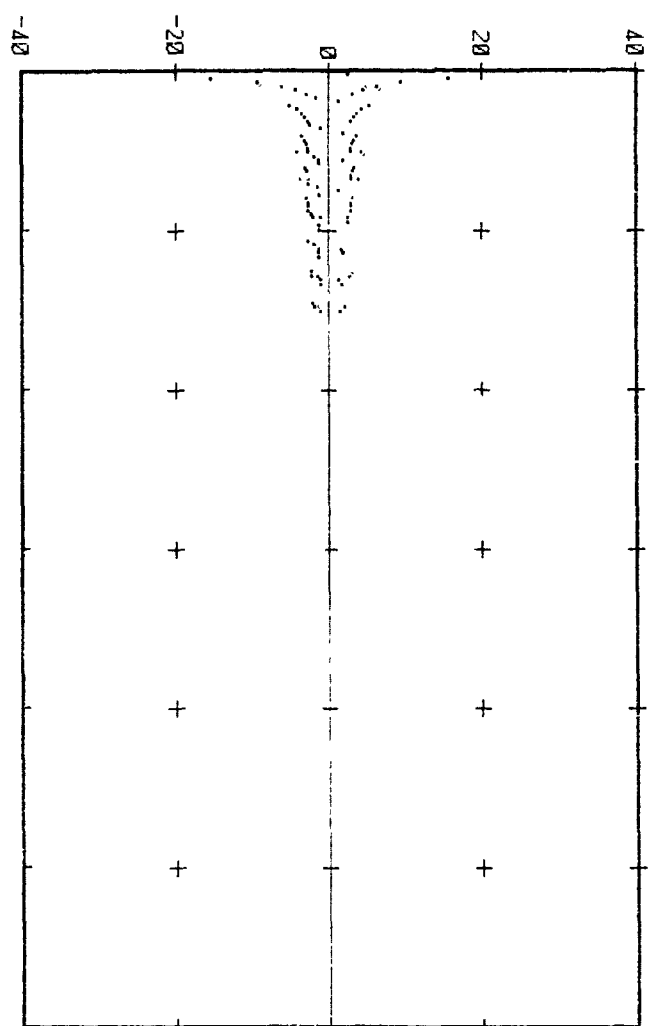
S 50 R 80 F 680

LRAPP

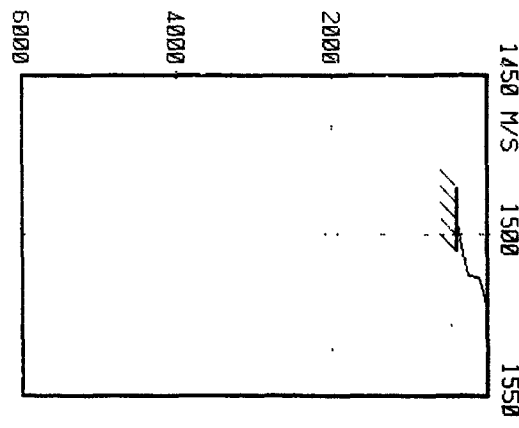
DB LOSS



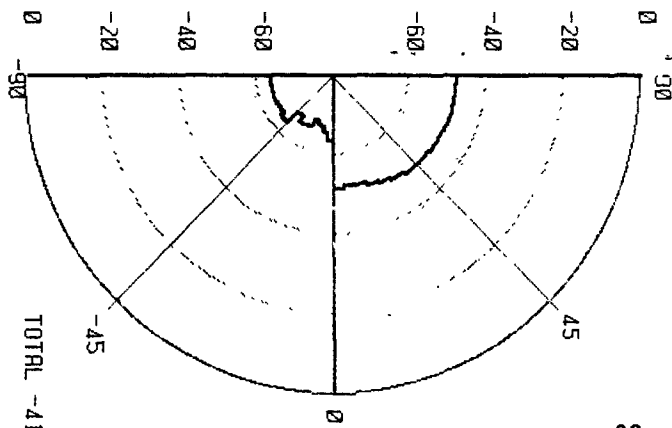
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



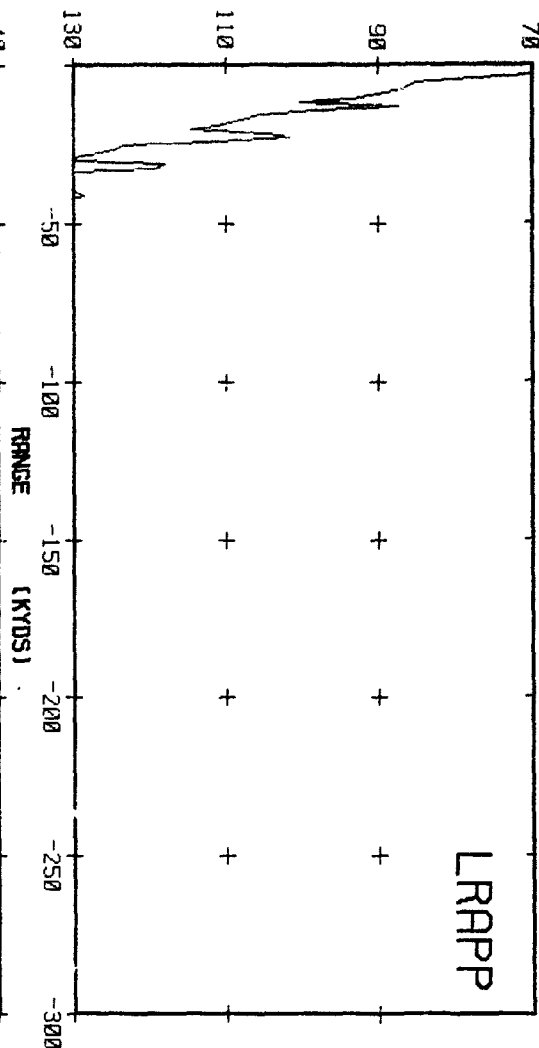
TOTAL -41.6 DB

PREP 5 WINTER

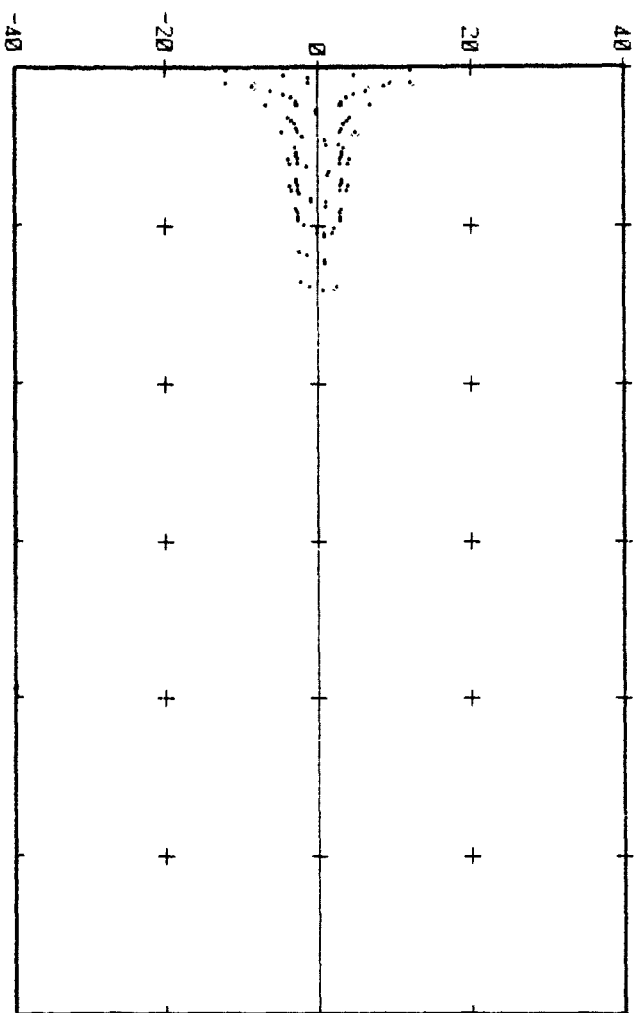
S 1020 R 60 F 600

1450 M/S 1500 1550

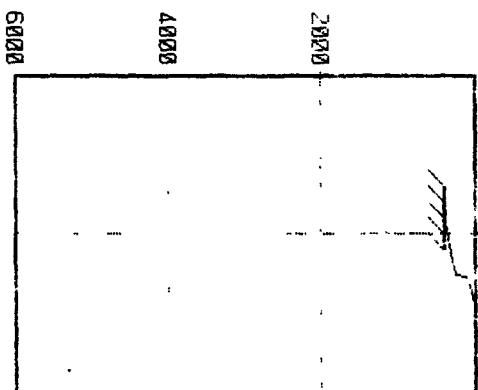
DB LOSS



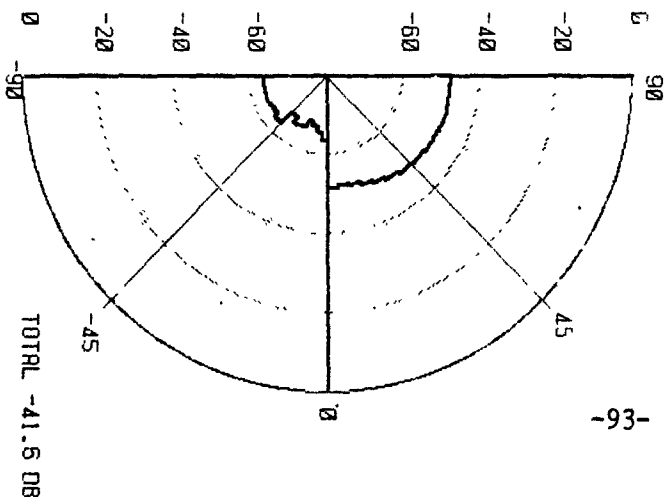
ARRIVAL ANGLE

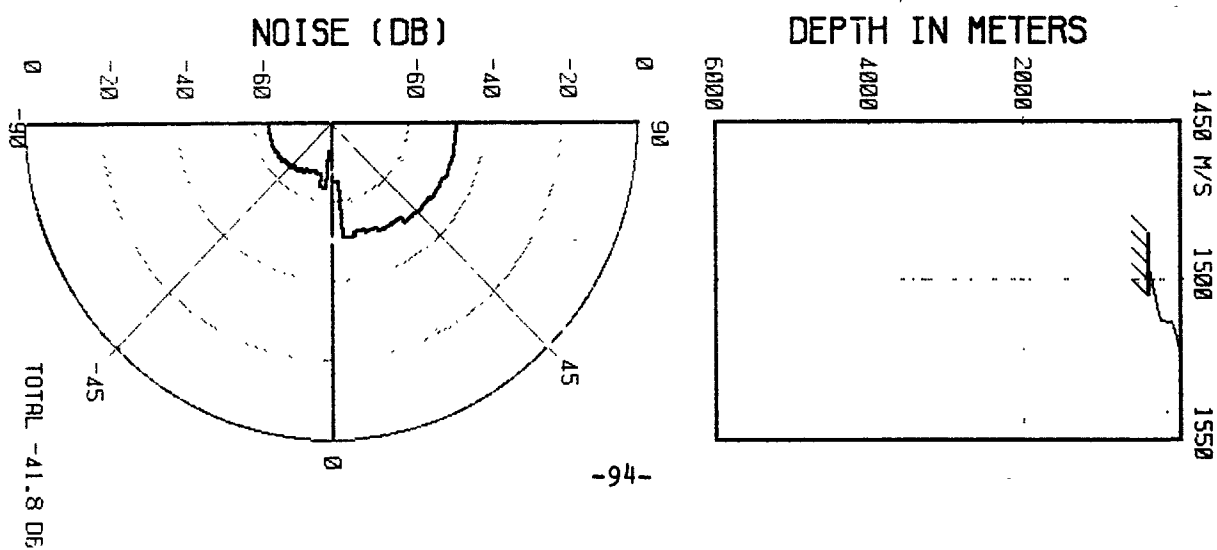
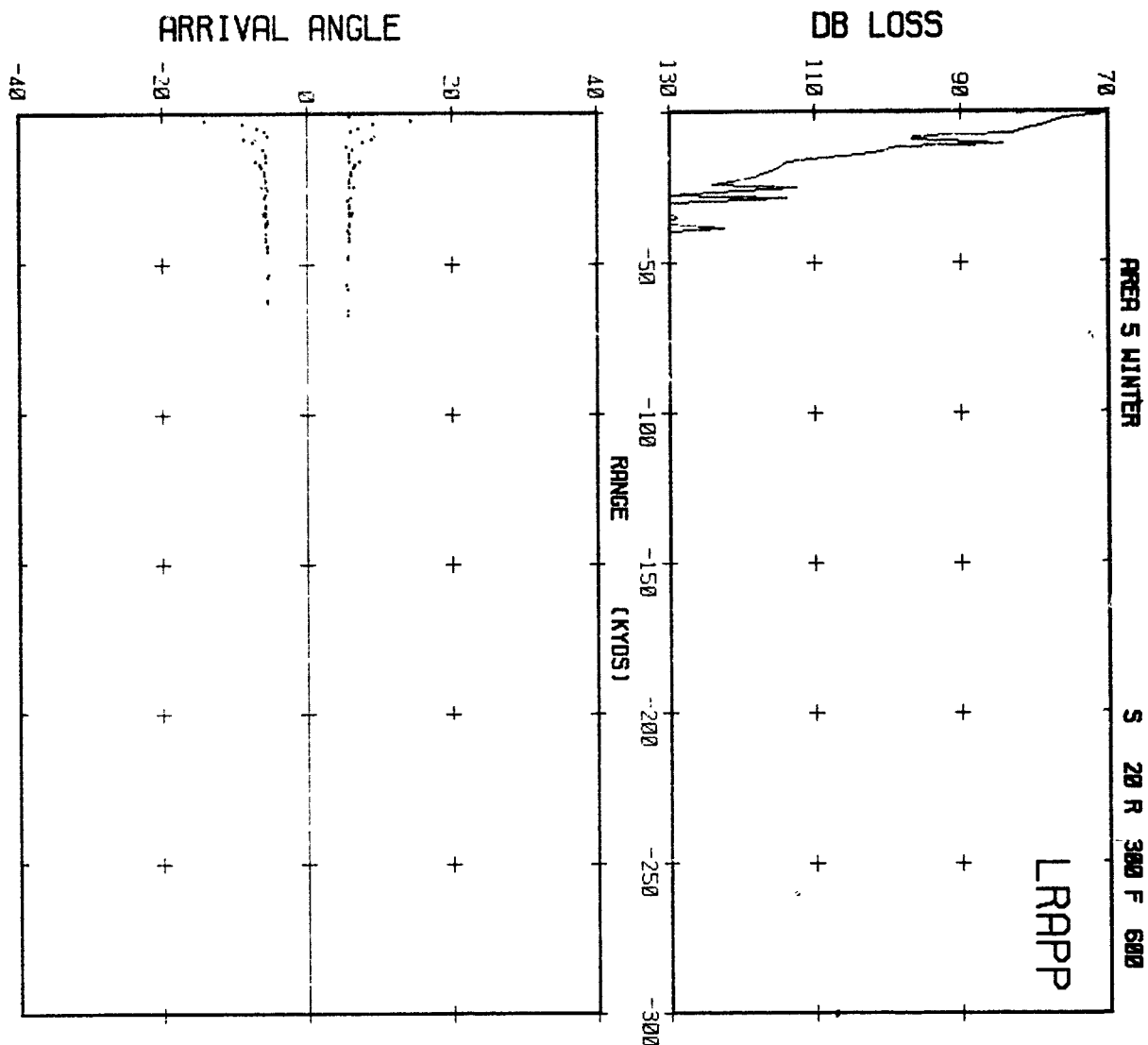


DEPTH IN METERS



NOISE (DB)



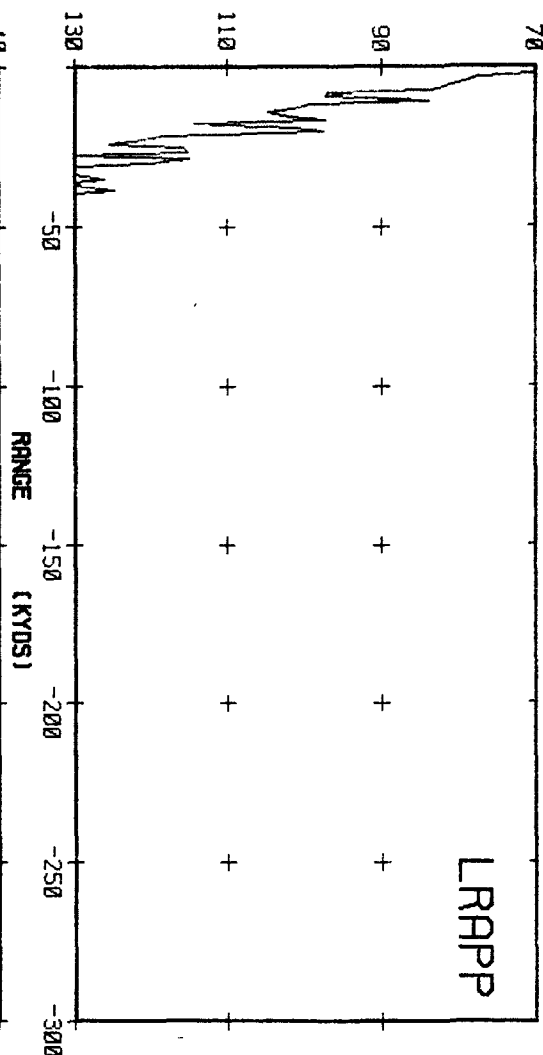


AREA 5 WINTER

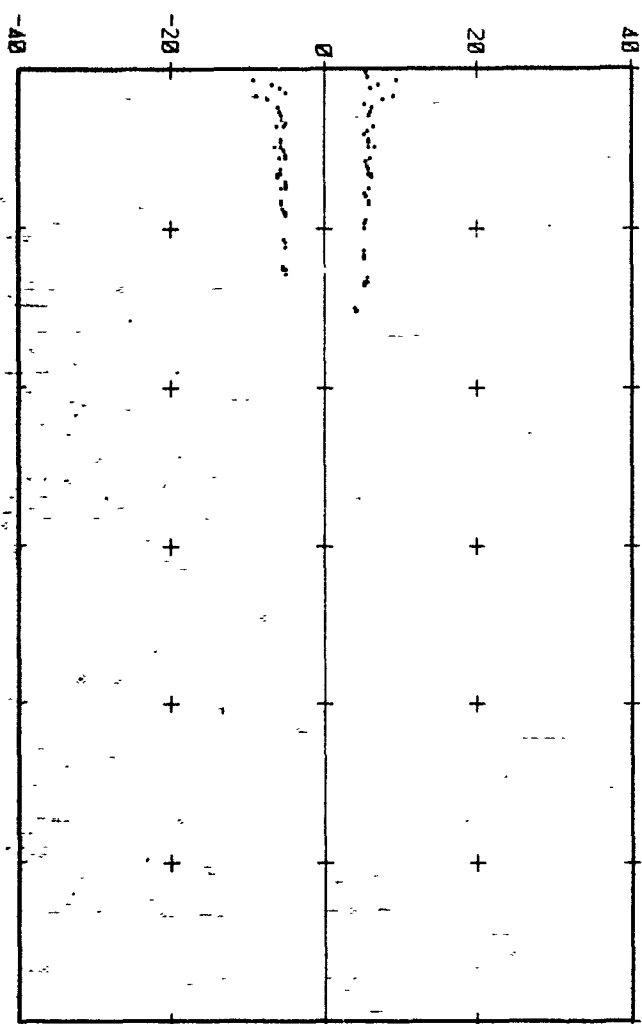
S 50 R 300 F 600

1450 M/S 1500 1550

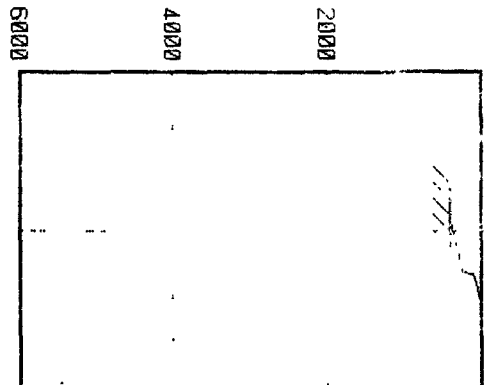
DB LOSS



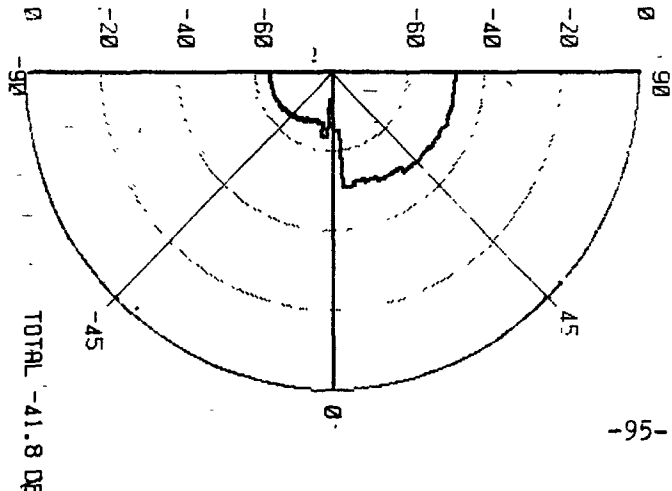
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

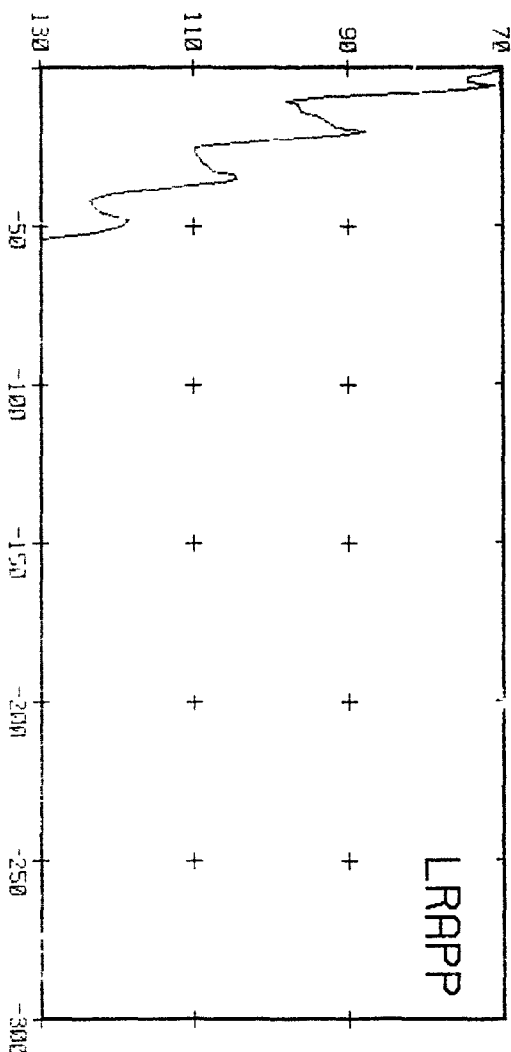


AREA 5 WINTER

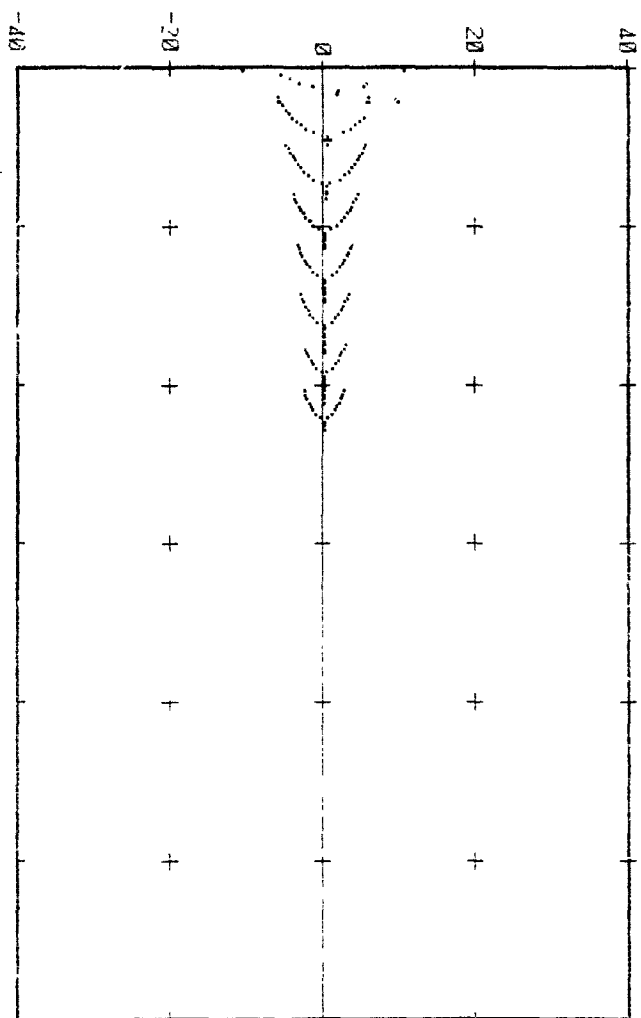
S 1020 R 300 F 600

LRAPP

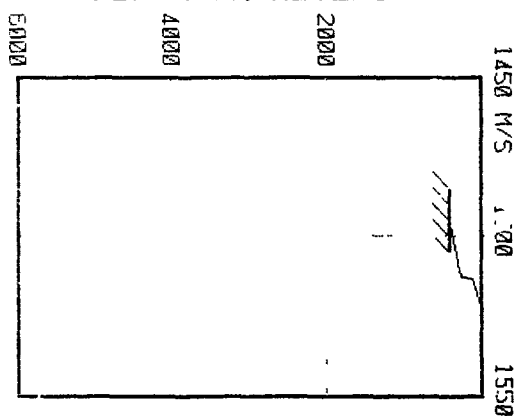
DB LOSS



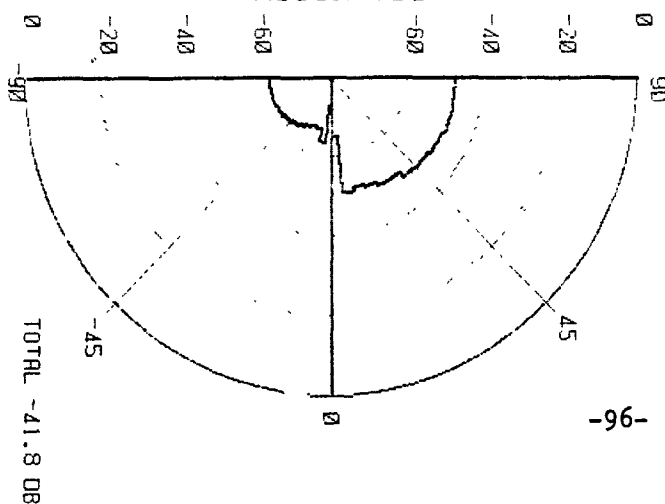
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

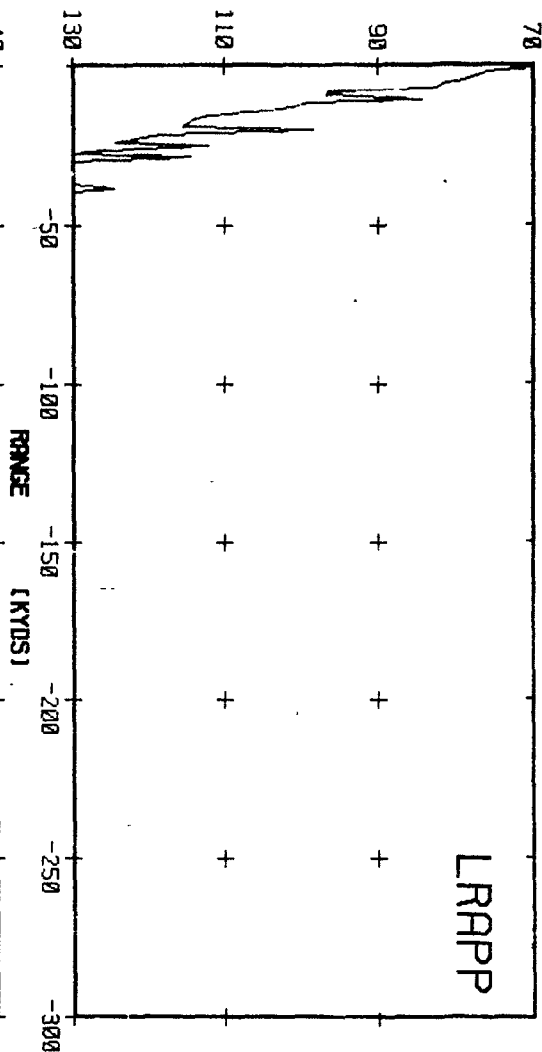


AREA 5 WINTER

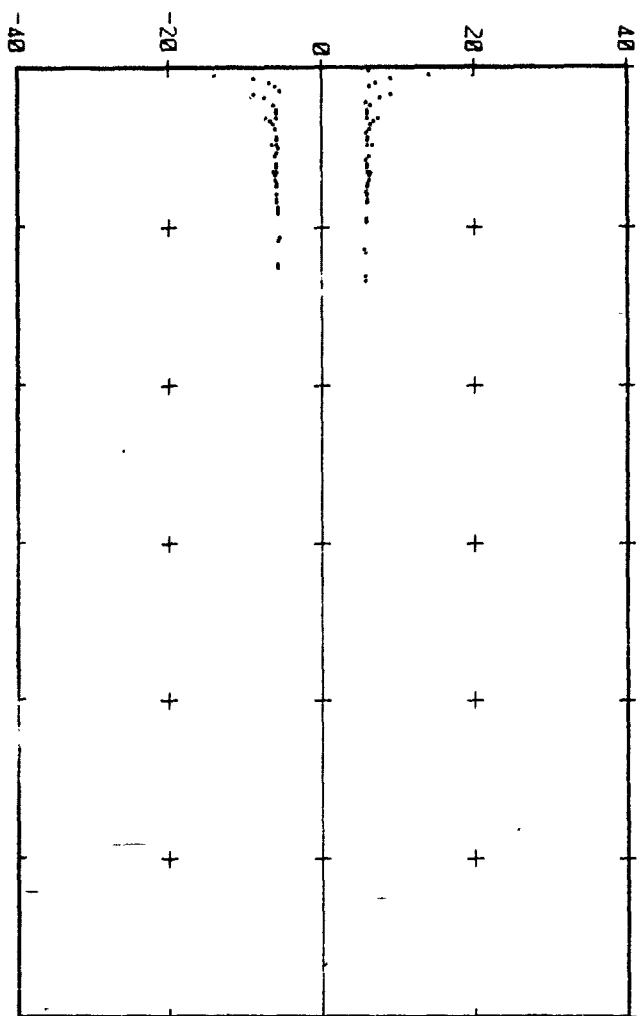
S 20 R 328 F 600

LRAPP

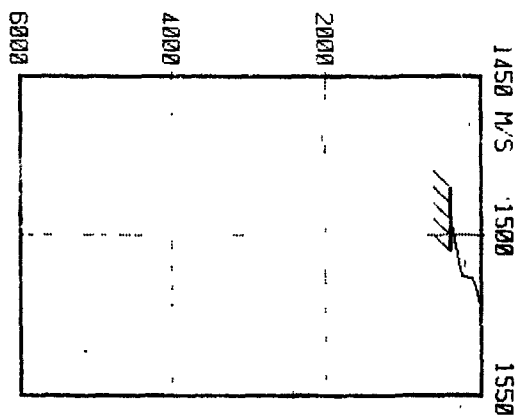
DB LOSS



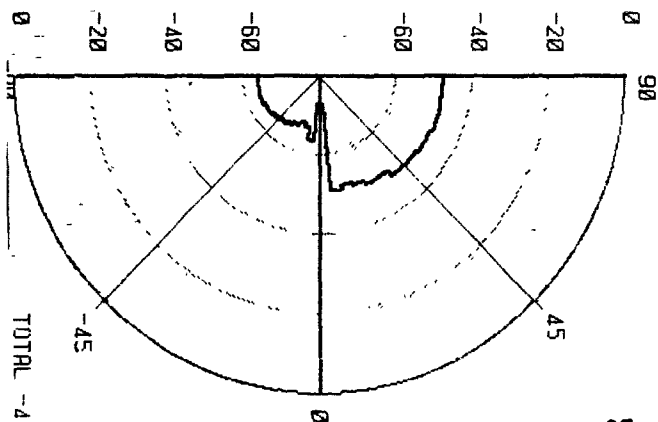
ARRIVAL ANGLE

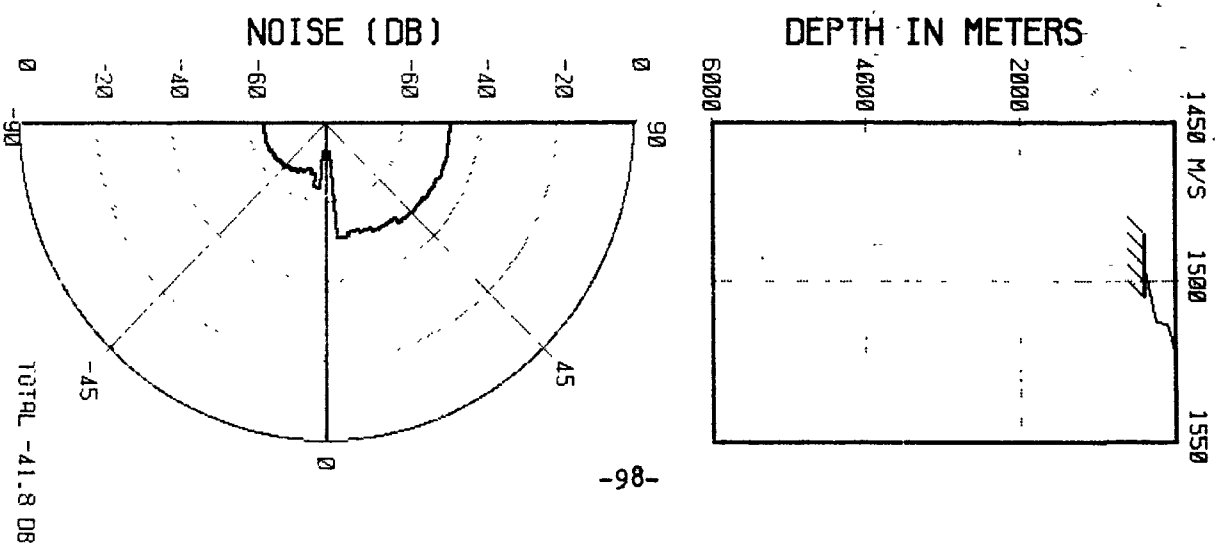
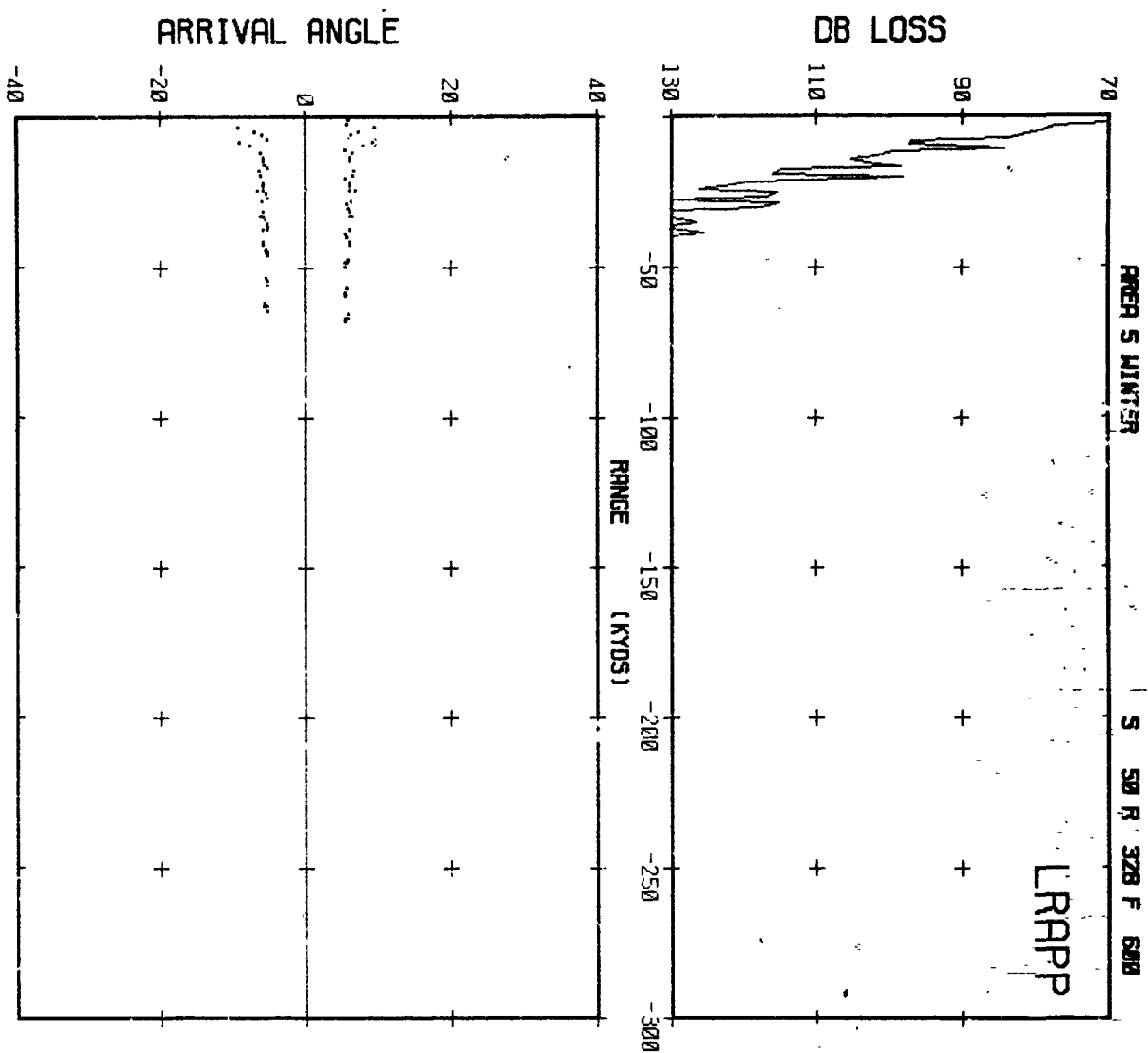


DEPTH IN METERS



NOISE (DB)



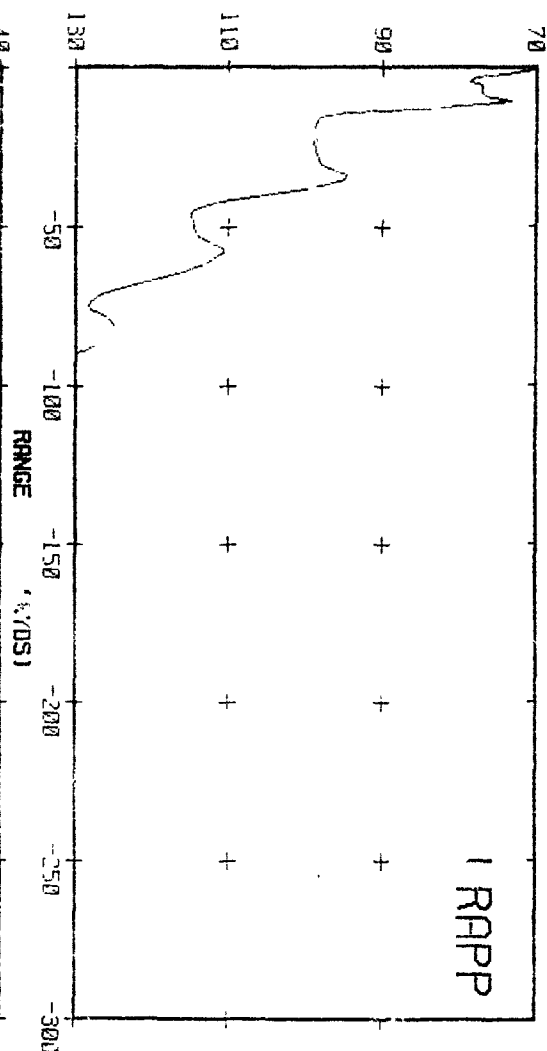


AREA 5 WINTER

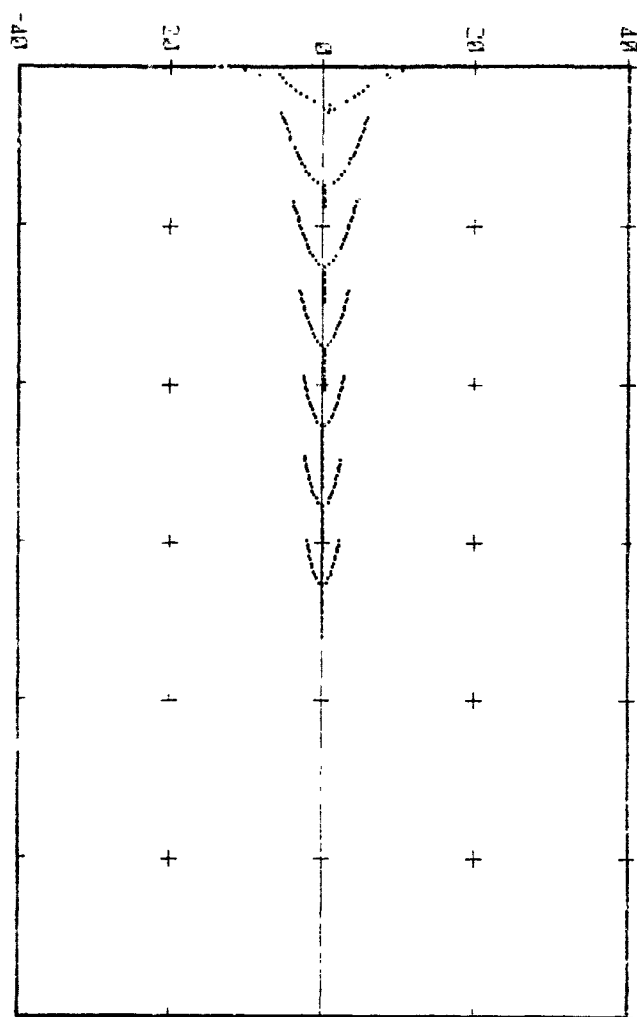
S 1020 R 328 F 500

1 RAPP

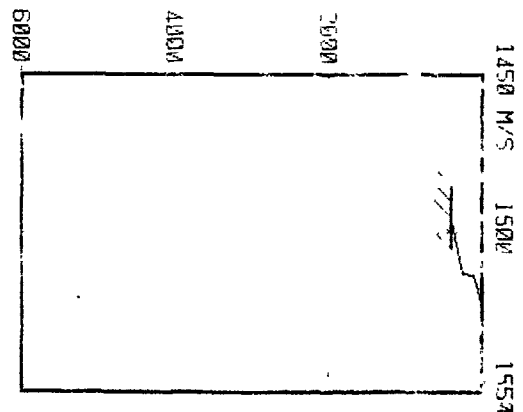
DB LOSS



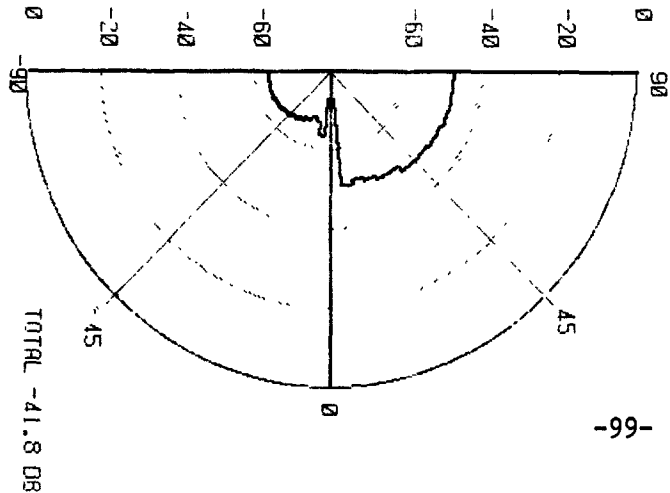
ARRIVAL ANGLE



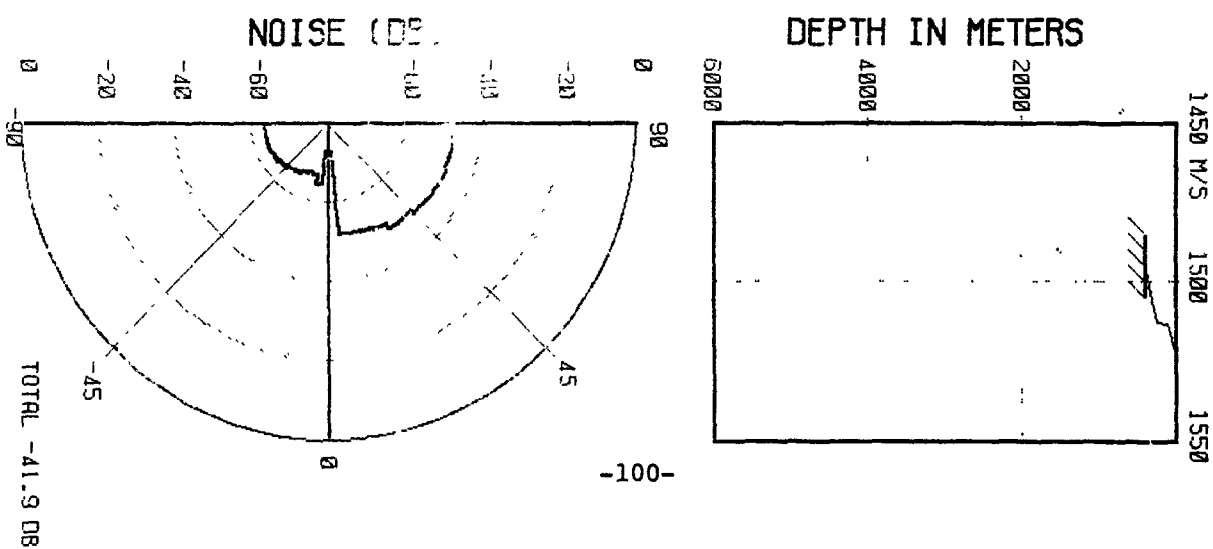
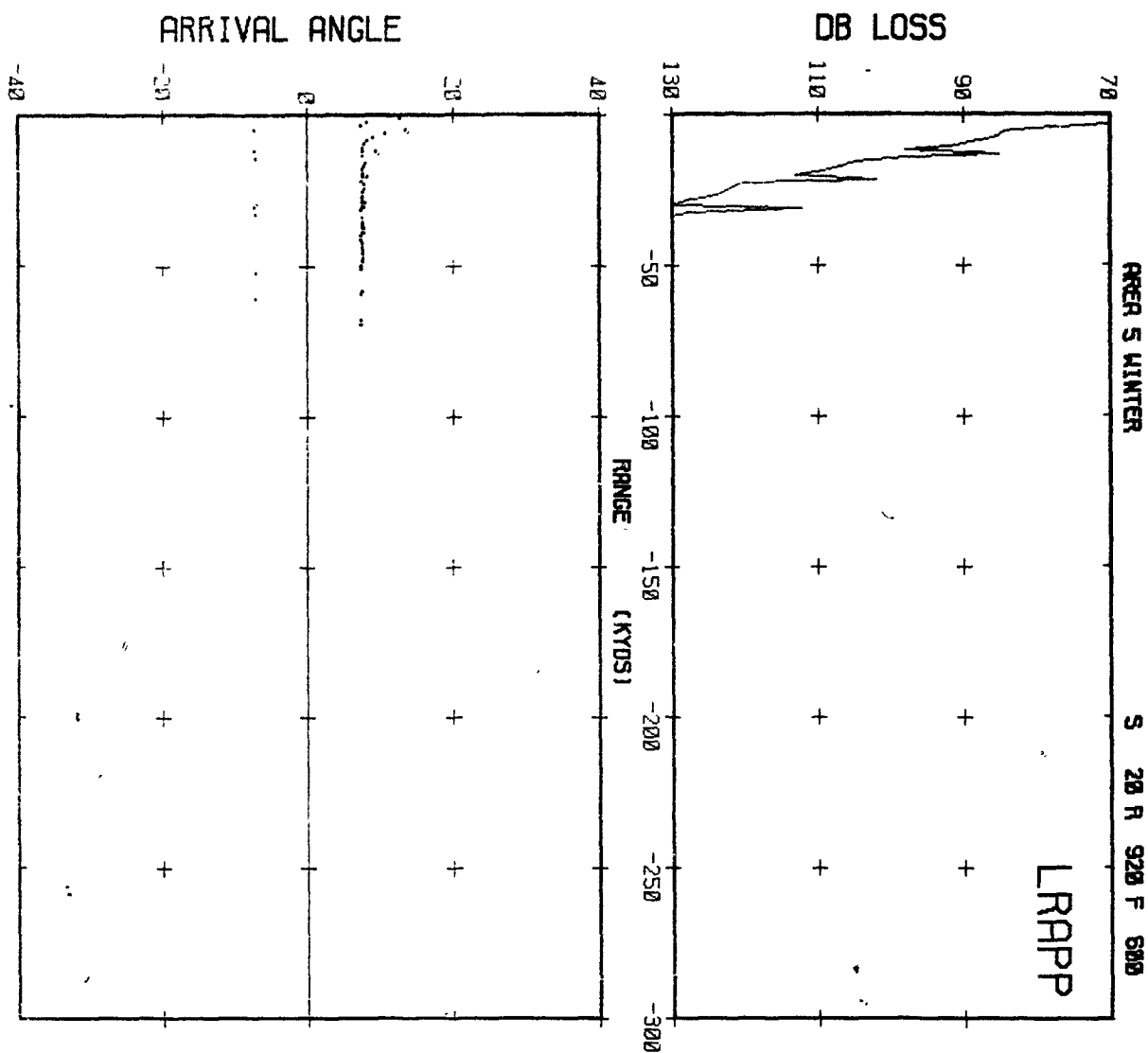
DEPTH IN METERS



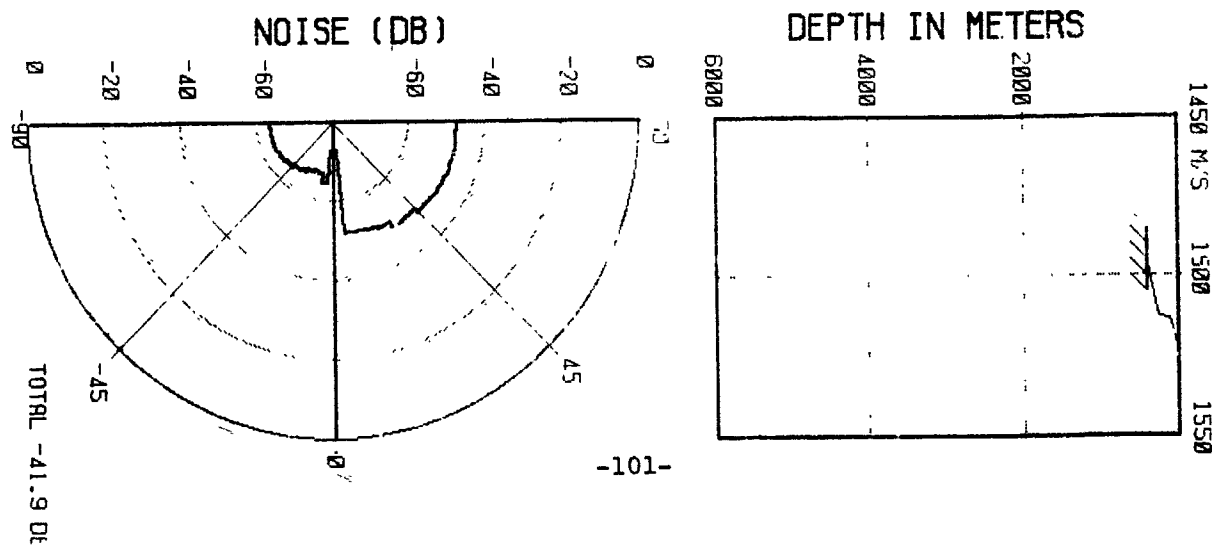
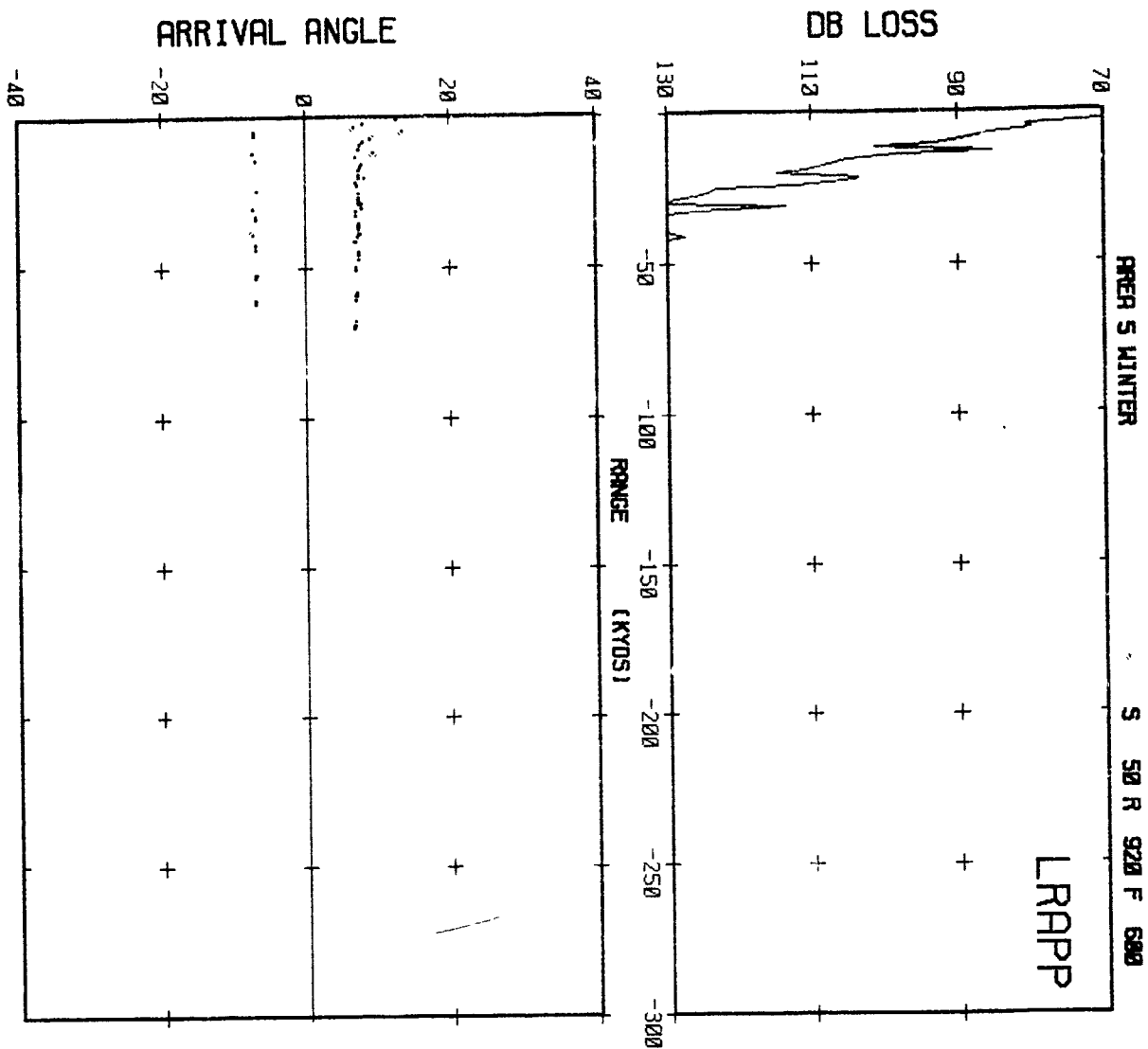
NOISE (DB)



Date: _____
 Time: _____
 Location: _____



TOTAL -41.9 DB

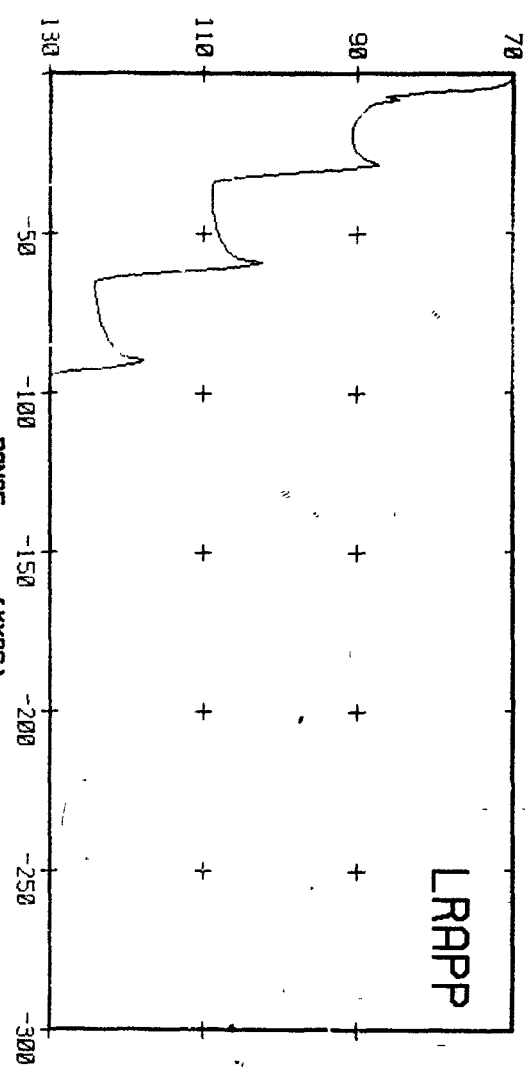




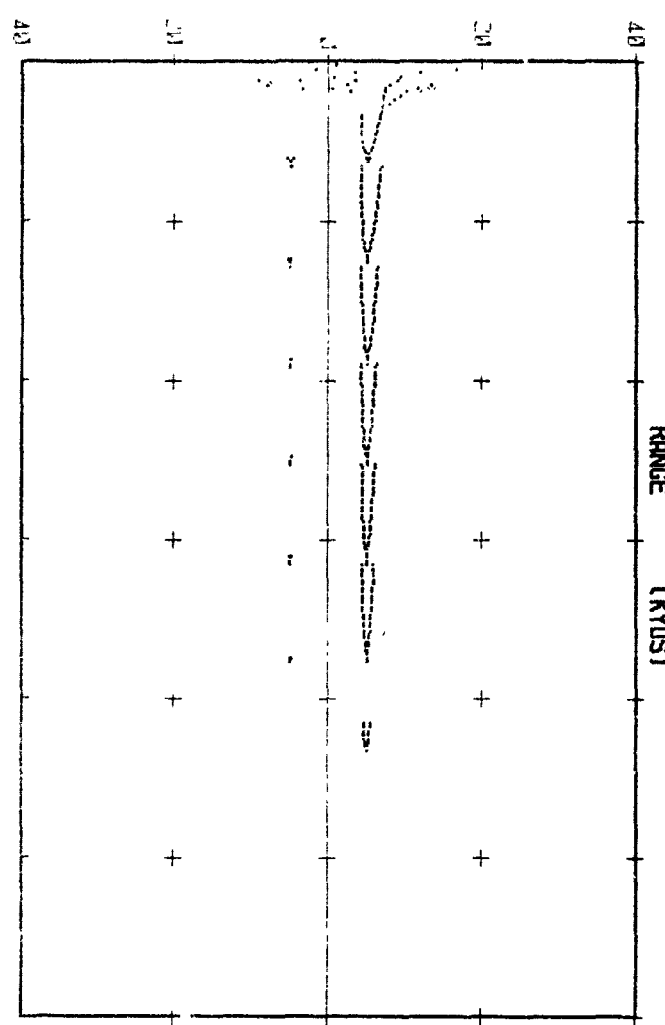
AREA 5 WINTER S 1028 R 928 F 688

LRAPP

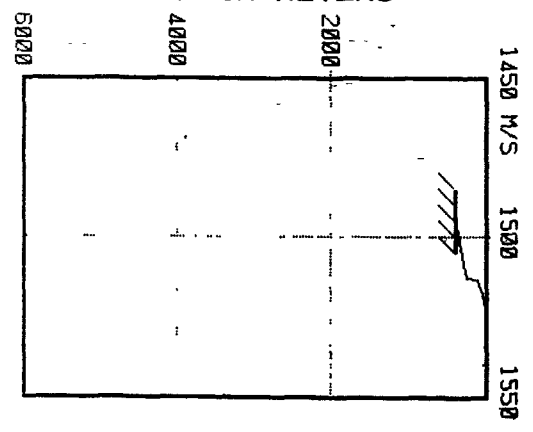
DB LOSS



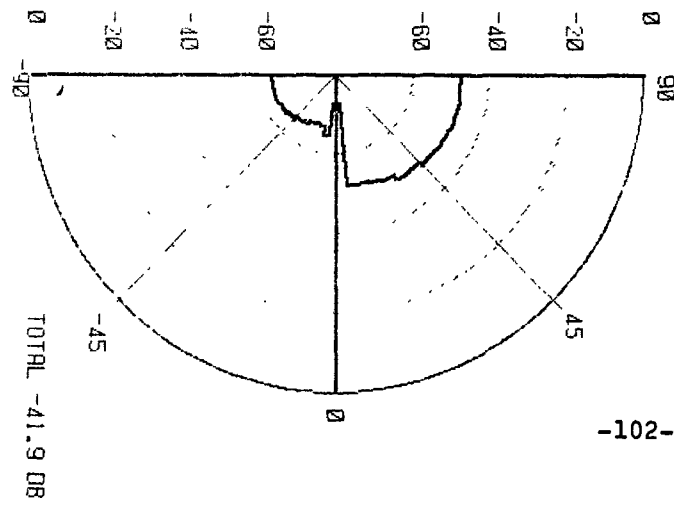
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

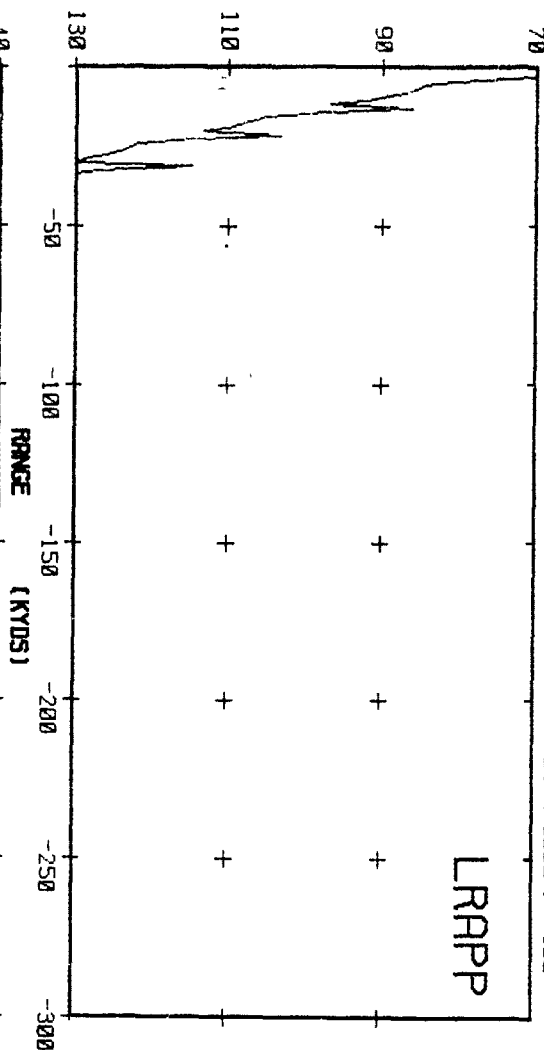


ARRER 5 MINTER

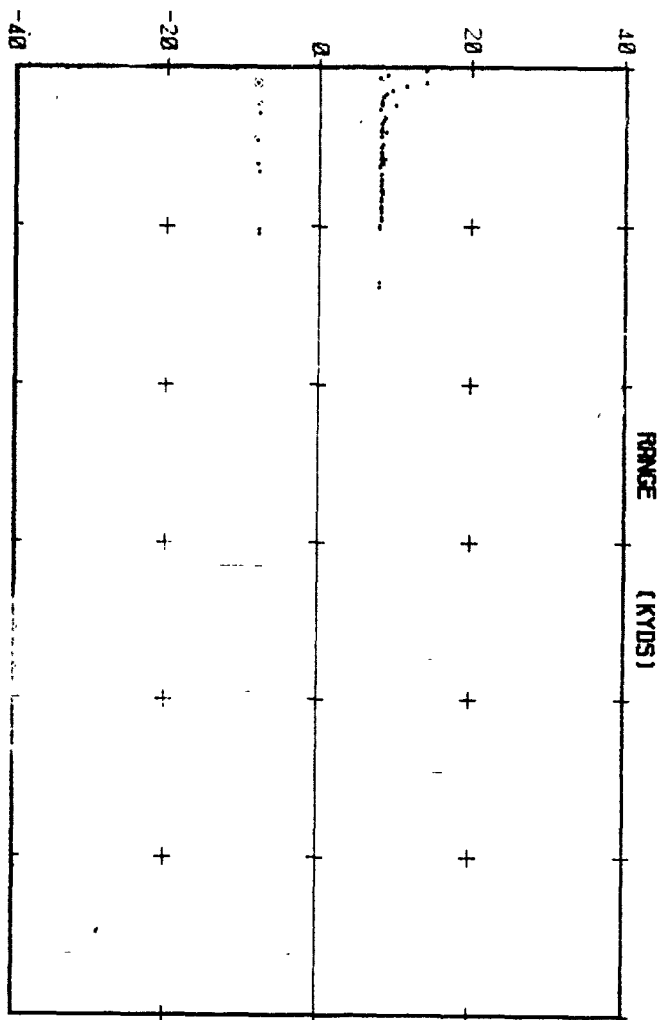
S 20 R 1000 F 600

LRAPP

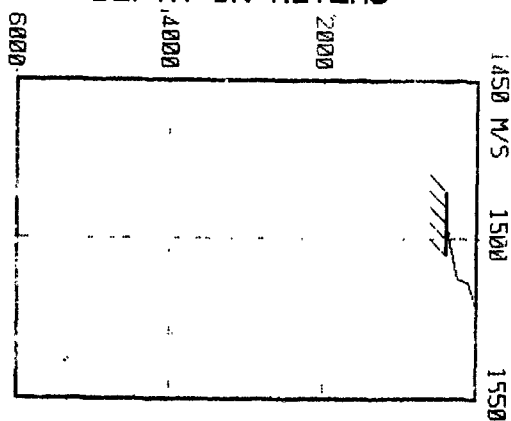
DB LOSS



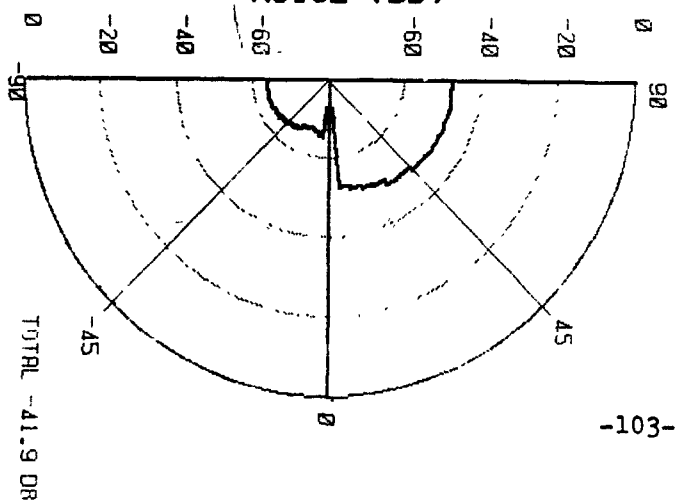
ARRIVAL ANGLE



DEPTH IN METERS

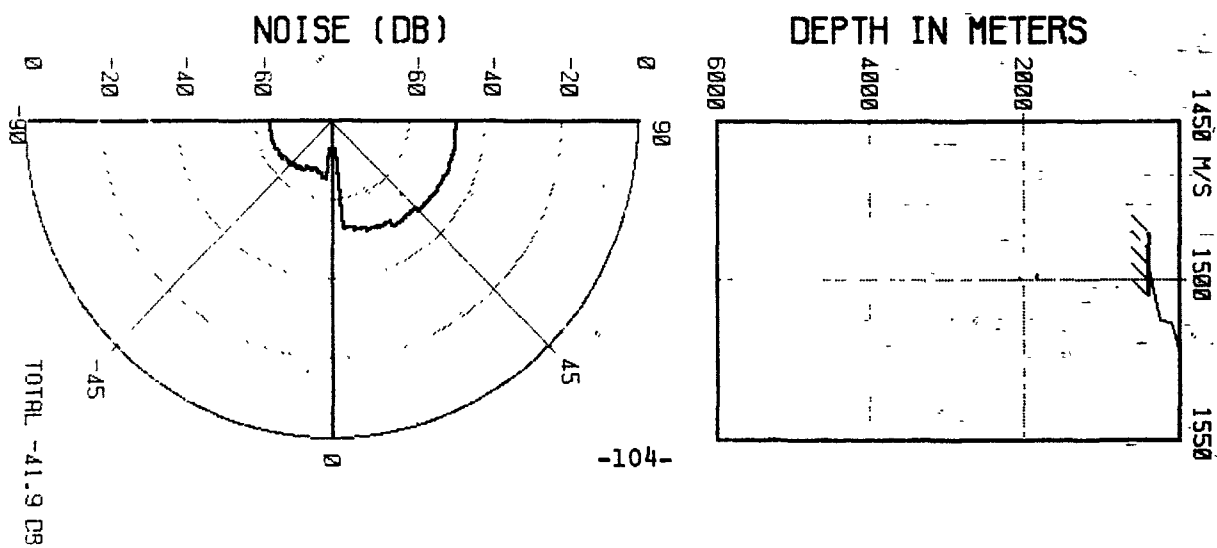
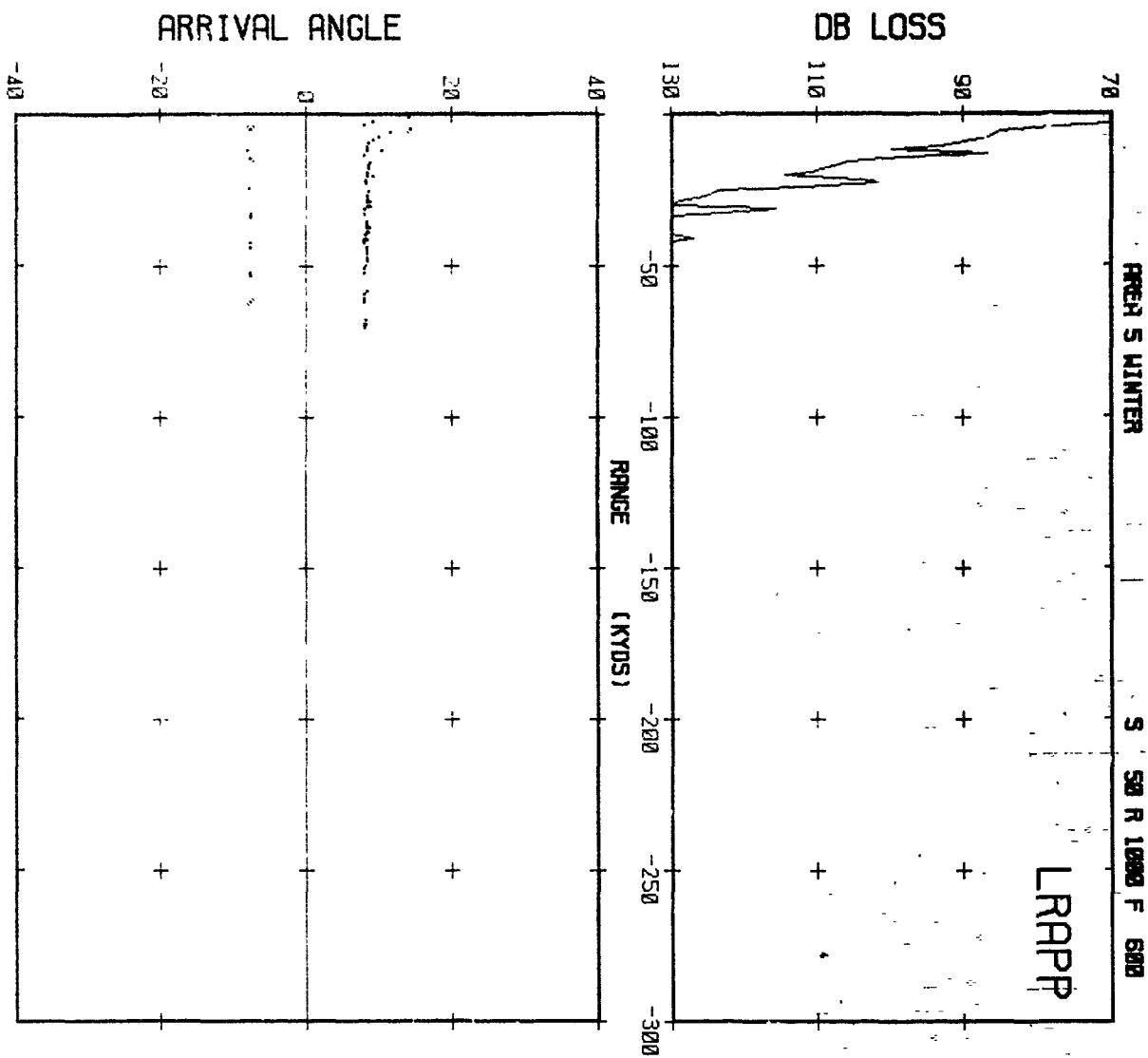


NOISE (DB)



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TOTAL -41.9 DB



PRER 5 WINTER

S 1920 R 1000 F 600

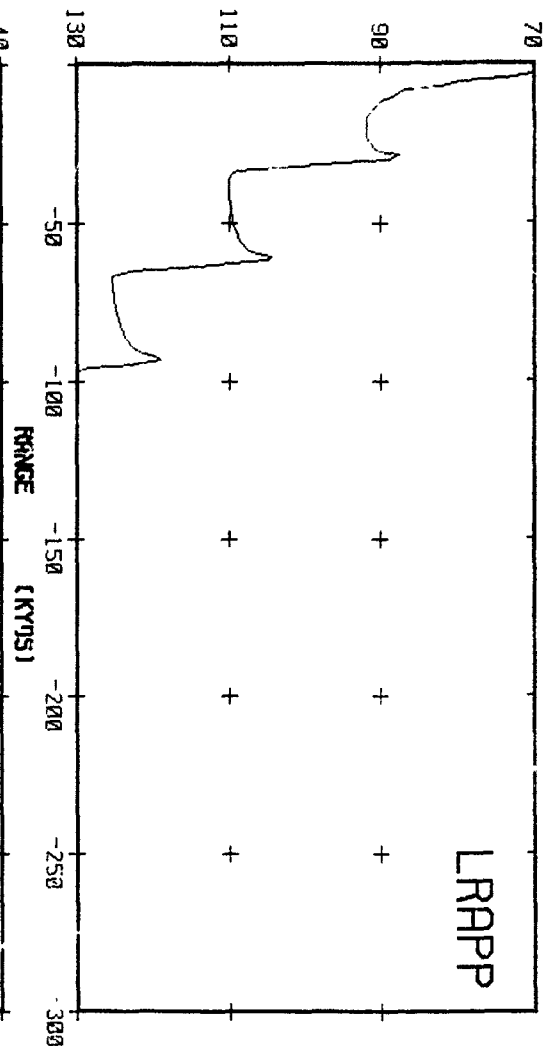
1450 M/S

1500

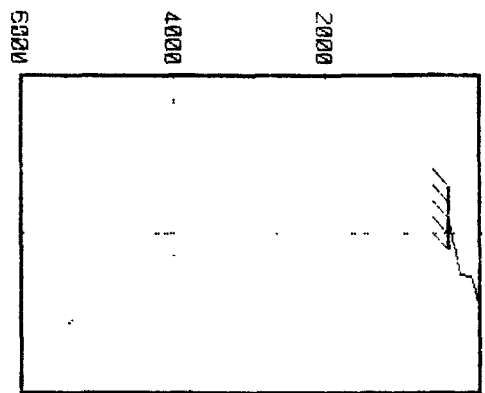
1550

LRAPP

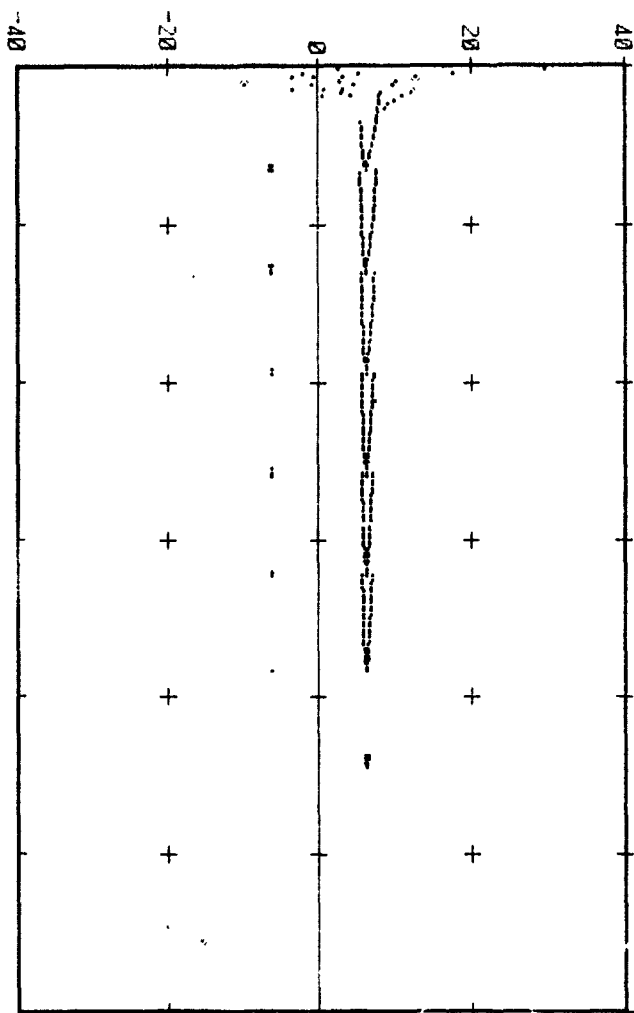
DB LOSS



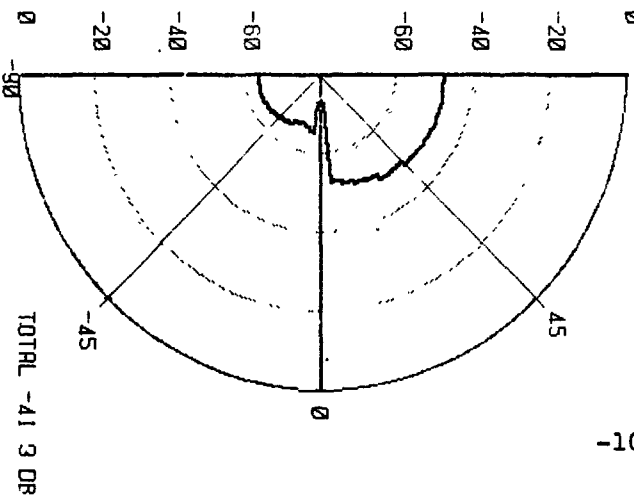
DEPTH IN METERS



ARRIVAL ANGLE



NOISE (DB)

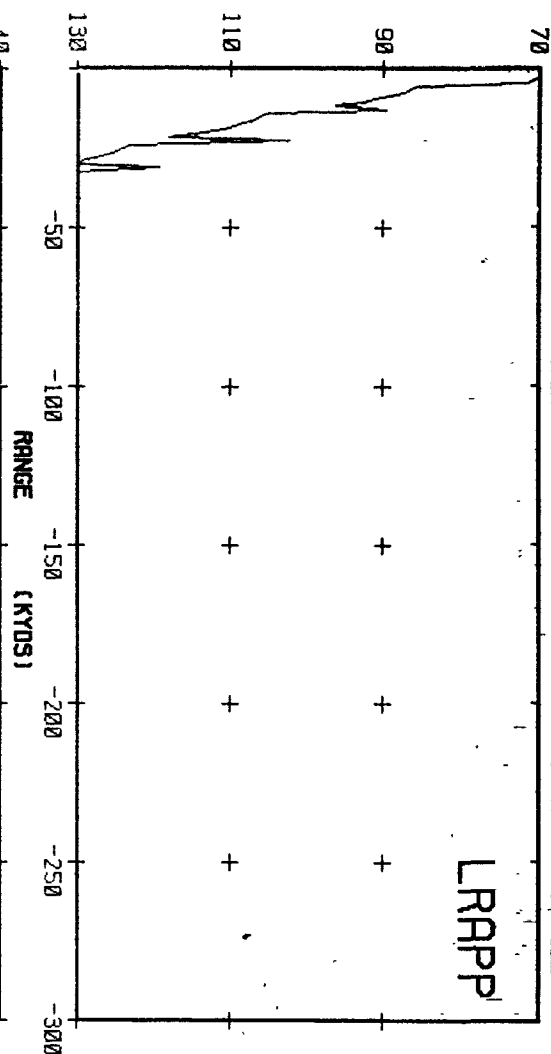


FREE S WINTER

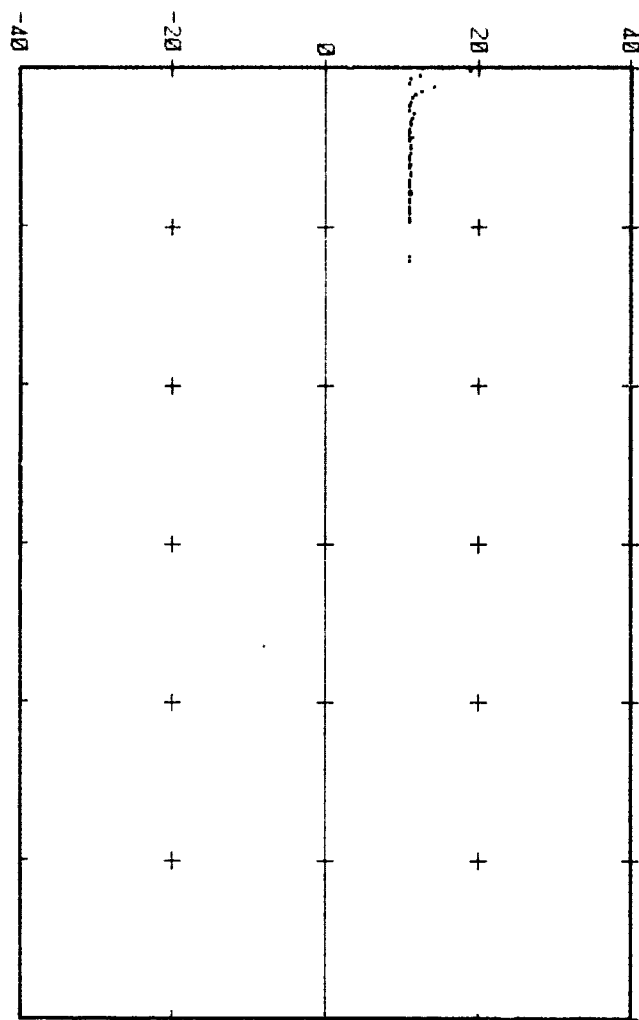
S. 20 R 1312 F 600

1450 M/S 1500 1550

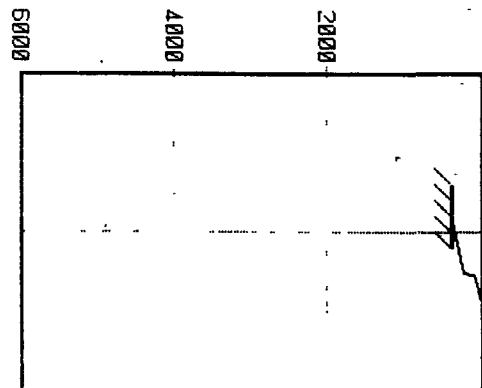
DB LOSS



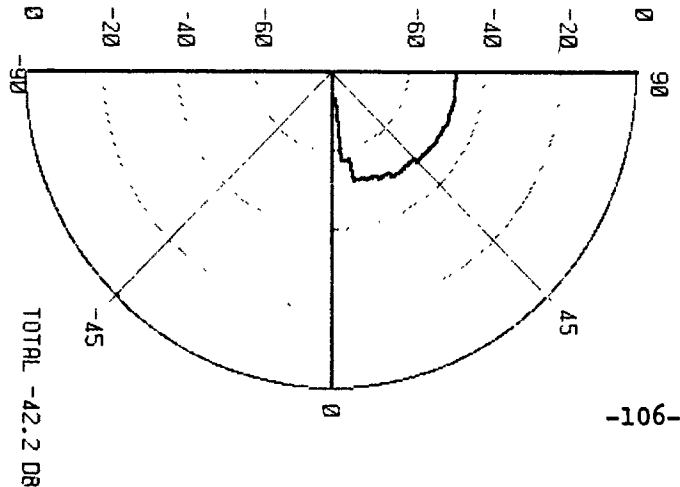
ARRIVAL ANGLE



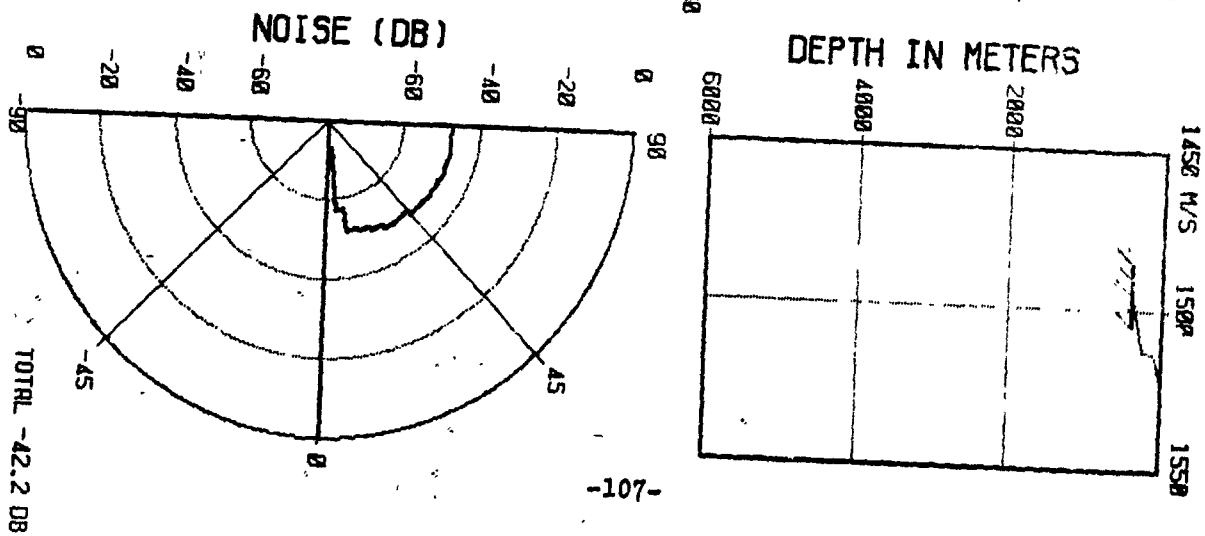
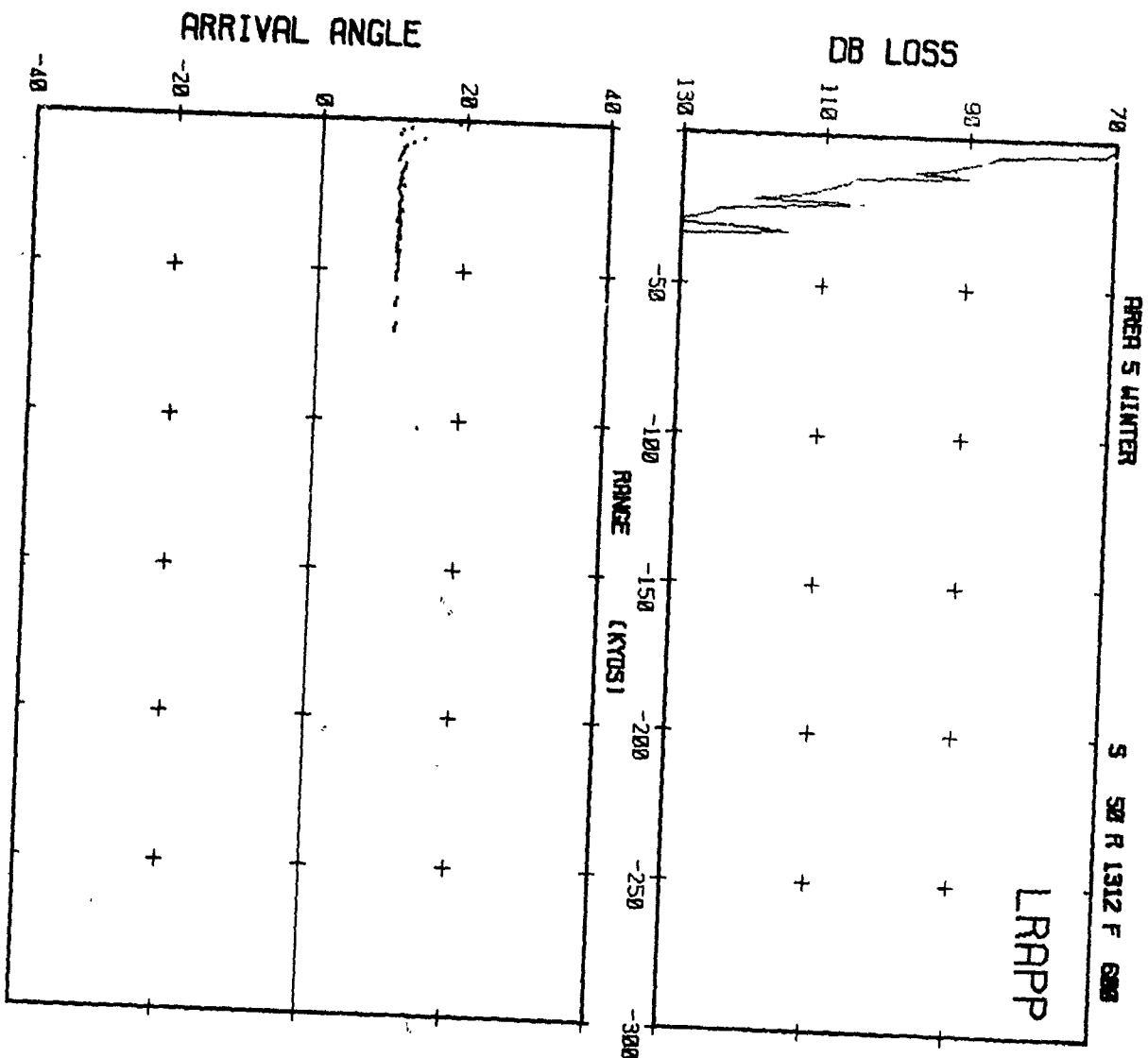
DEPTH IN METERS



NOISE (DB)



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1 2 3 4 5 6 7 8 9 10 11 12

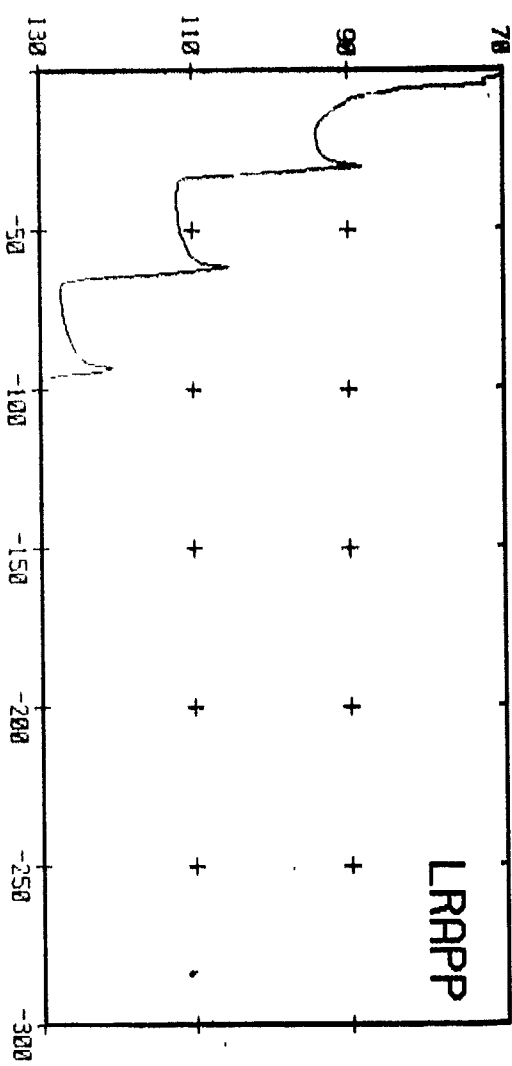
1 2 3 4 5 6 7 8 9 10 11 12

AREA 5 HINTER

S 1020 R 1312 F 600

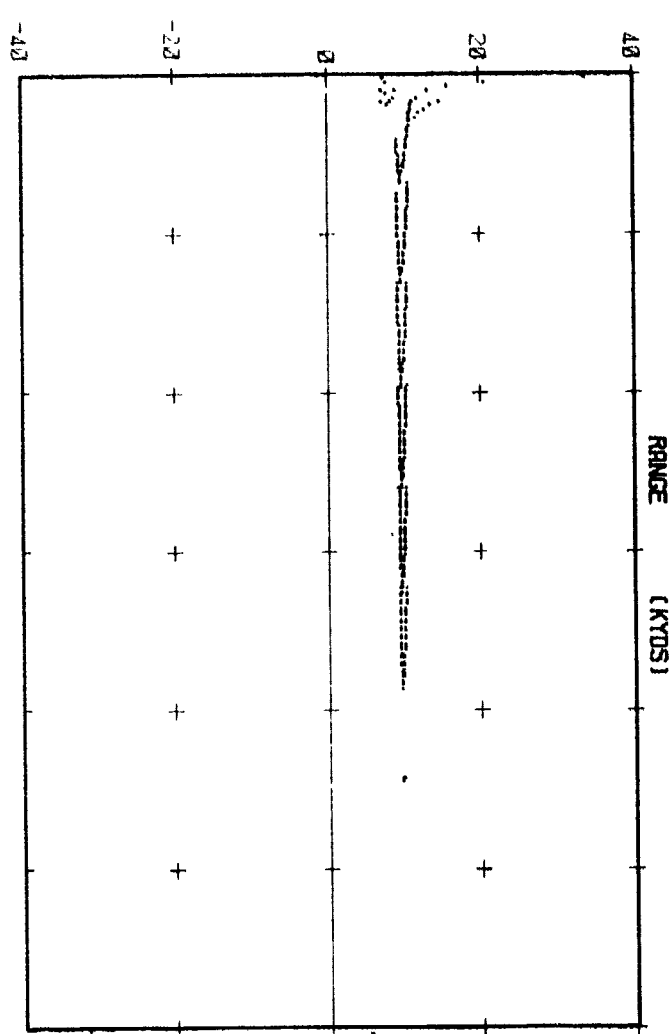
1450 H/S 1500 1550

DB LOSS

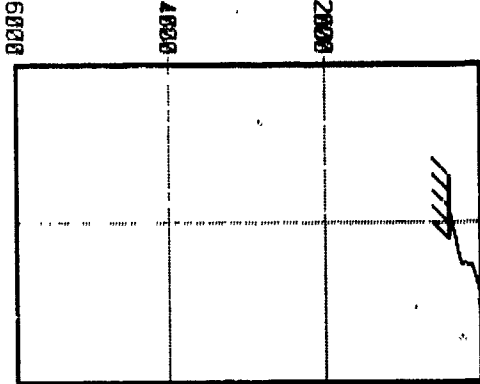


LRAPP

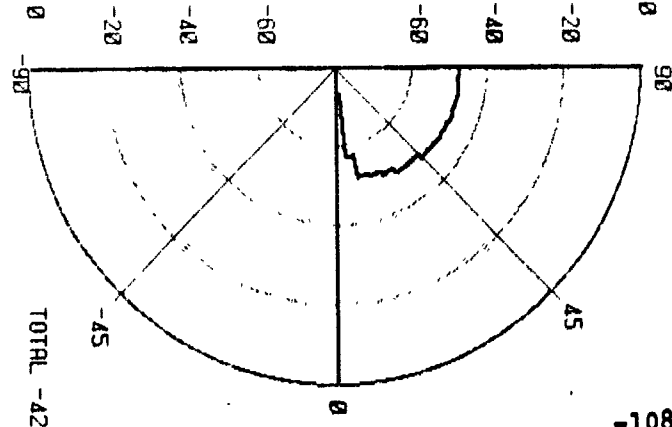
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



TOTAL -42.2 DB

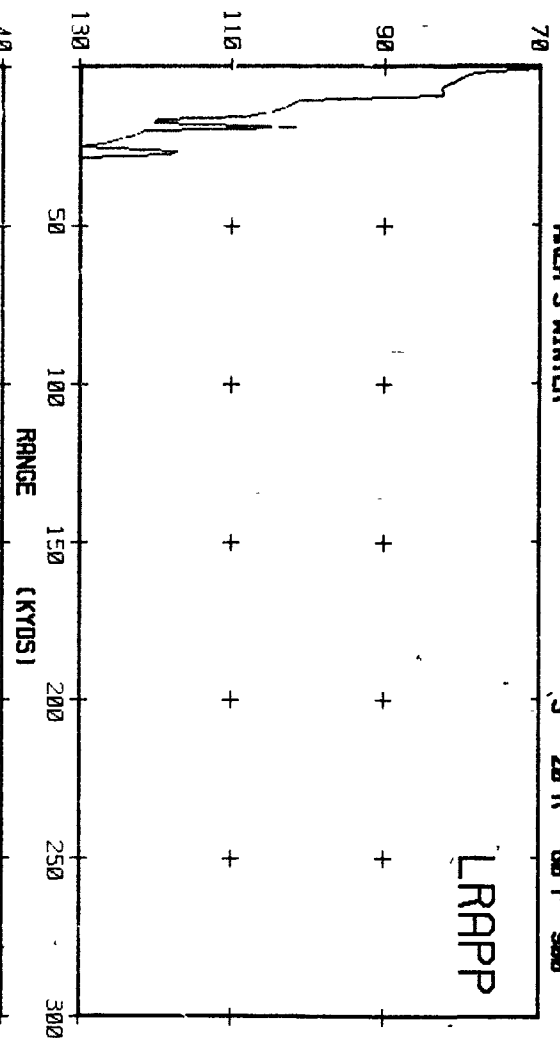
-108-

AREA 5 HINTER

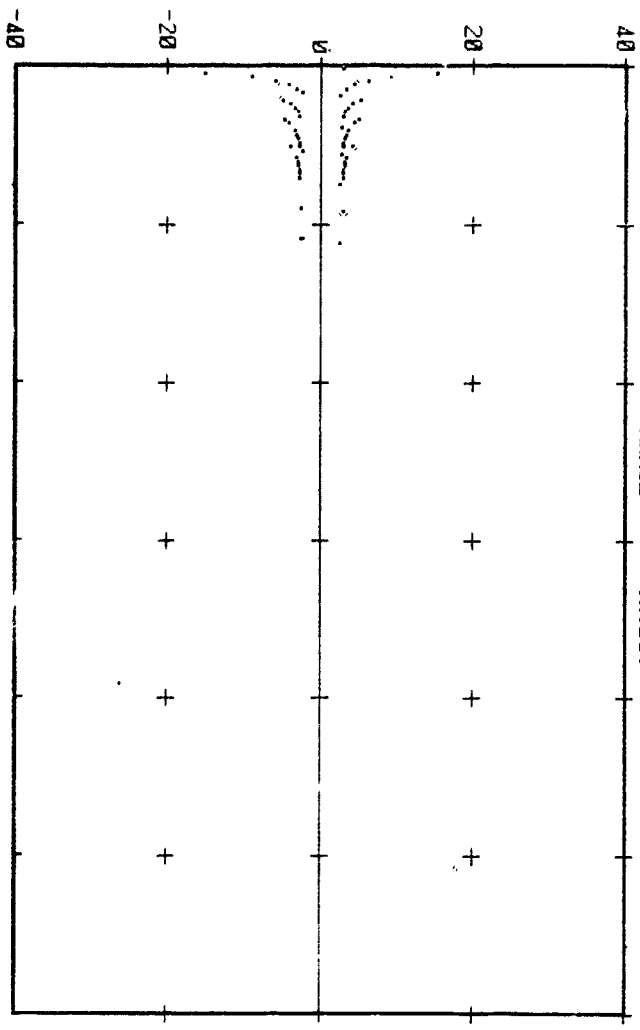
S 20 R 60 F 900

LRAPP

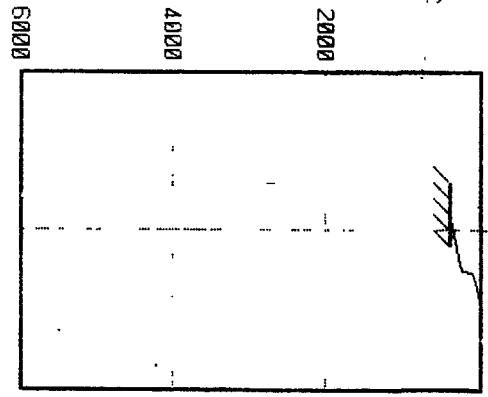
DB LOSS



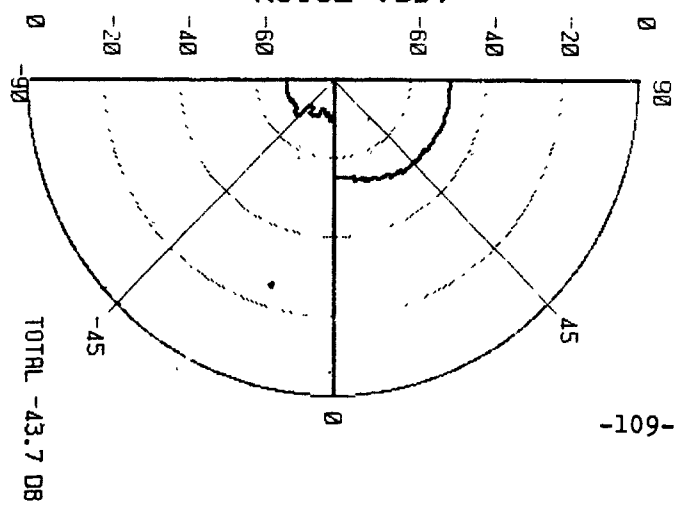
ARRIVAL ANGLE

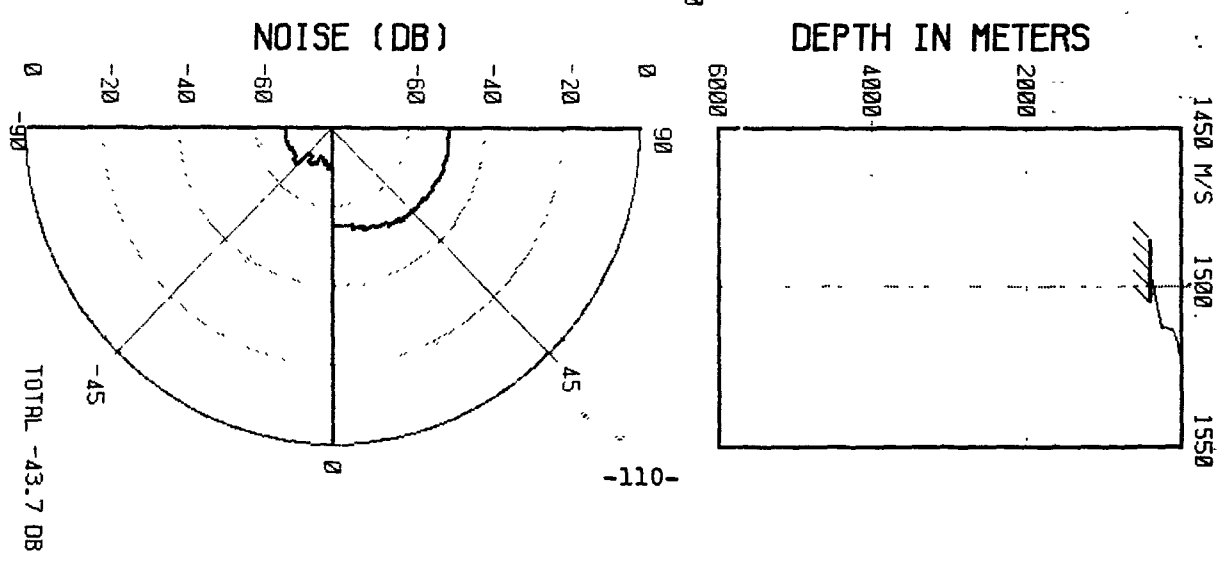
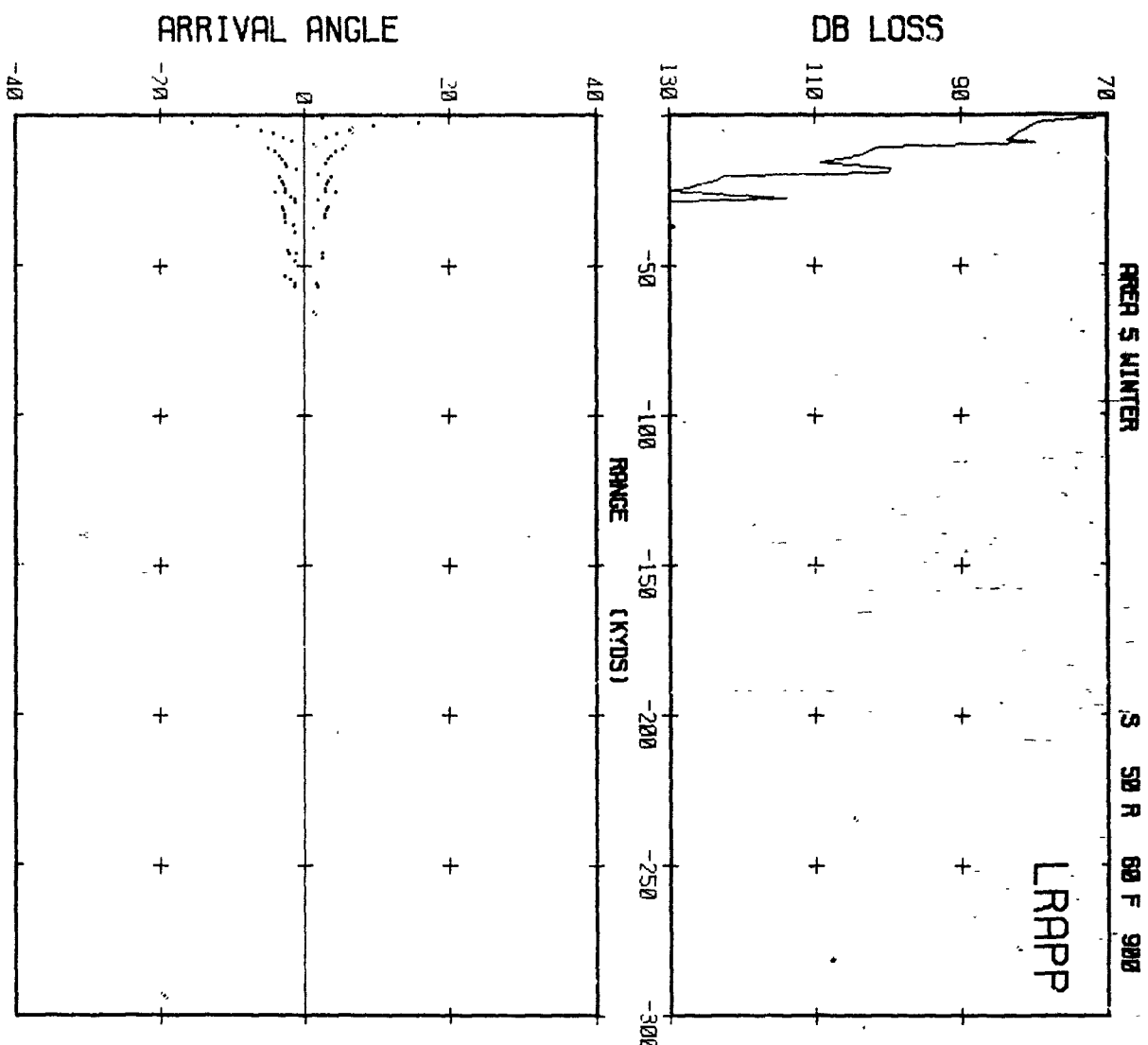


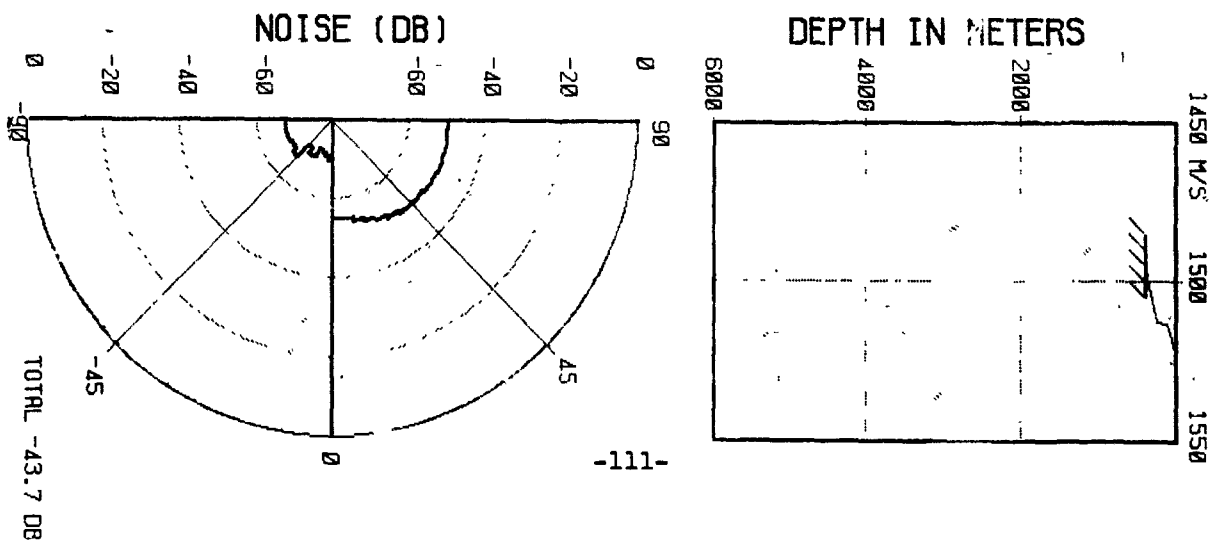
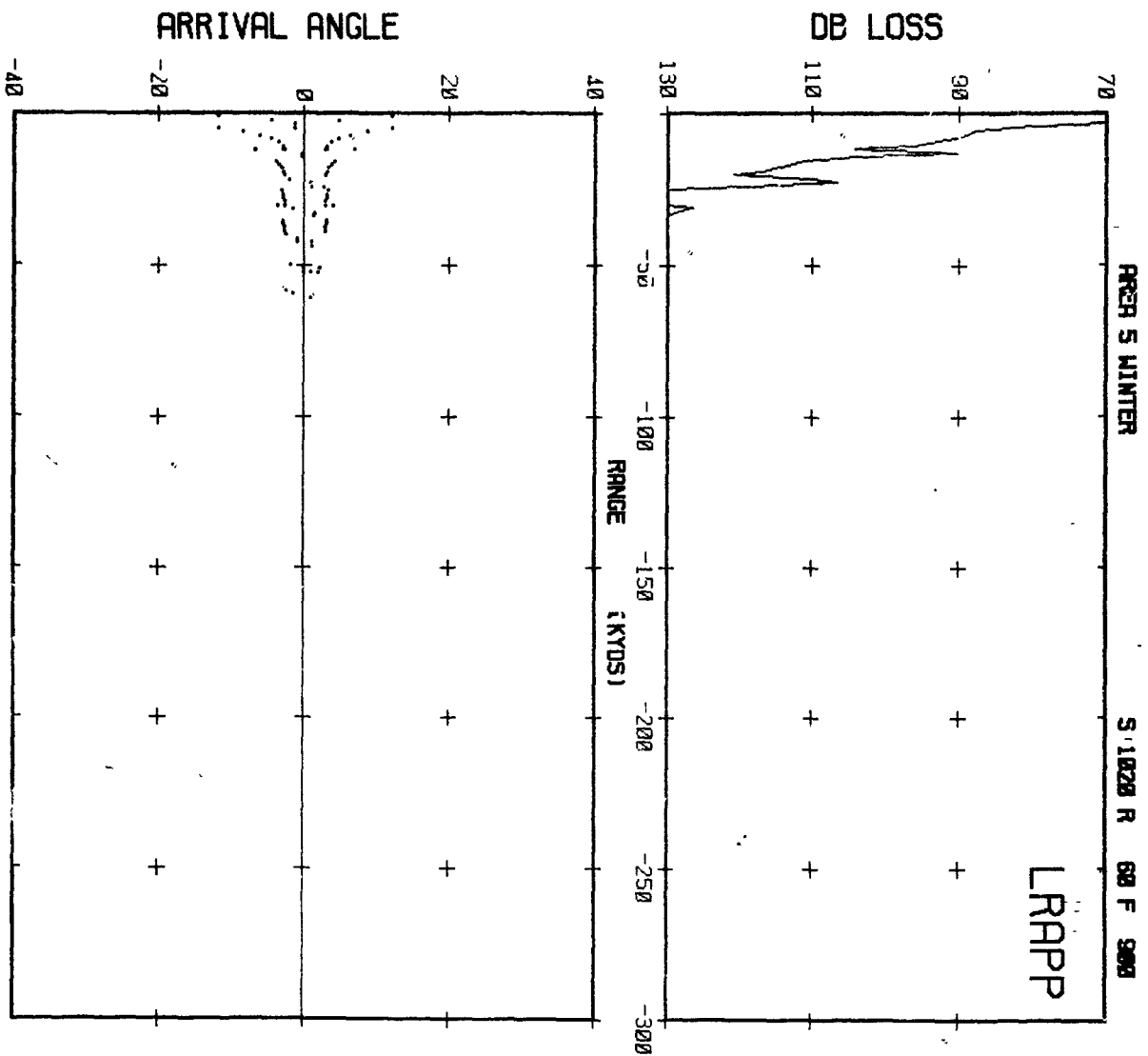
DEPTH IN METERS



NOISE (DB)





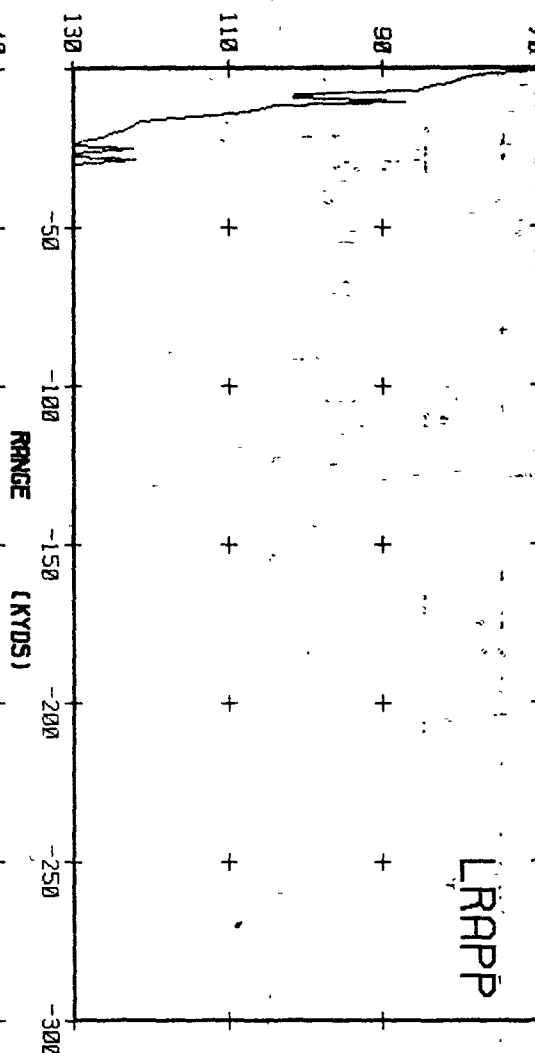


AREA 5 WINTER

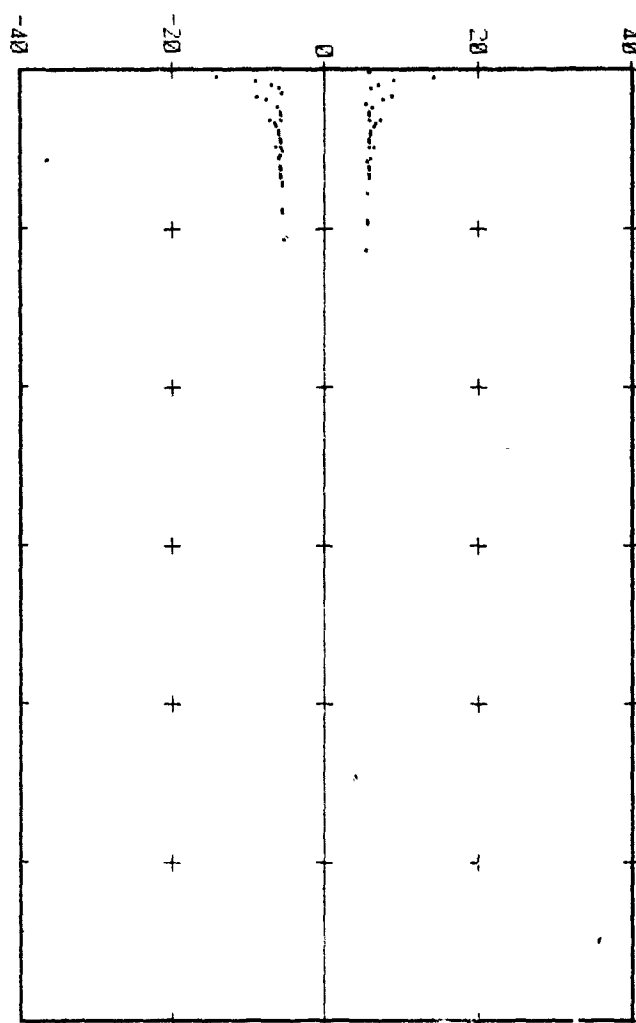
S 20 R 300 F 900

1450 M/S 1500 1550

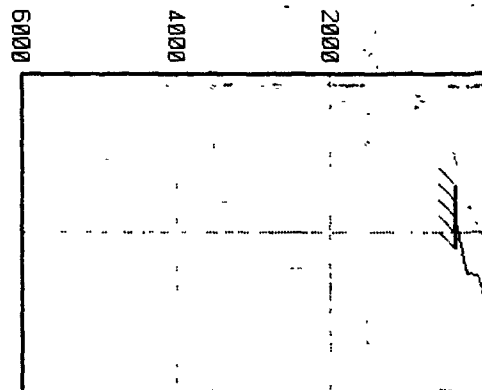
DB LOSS



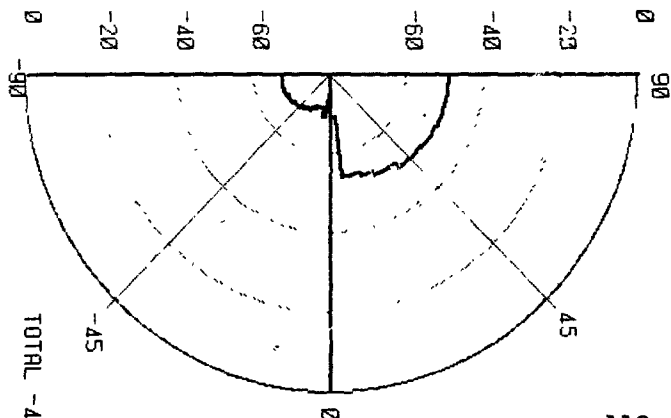
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



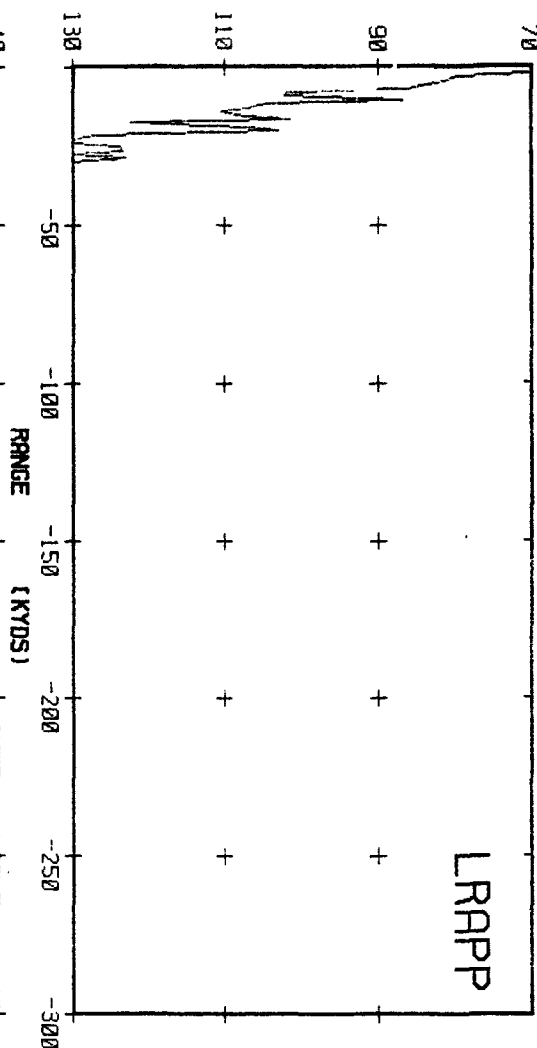
TOTAL -43.8 DB

PRER 5 WINTER

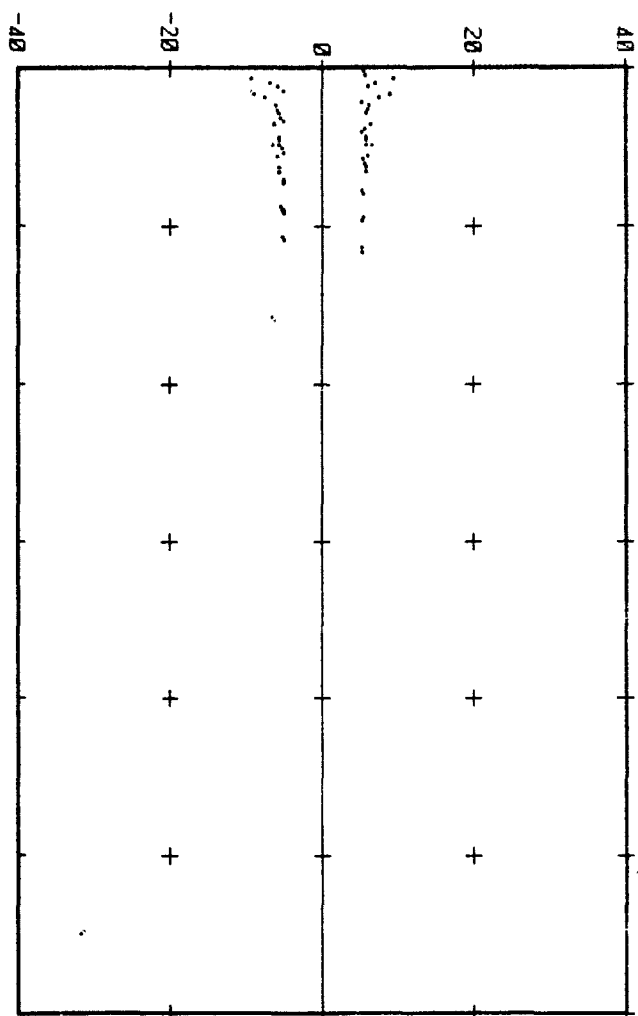
S 50 R 300 F 900

1450 M/S 1500 1550

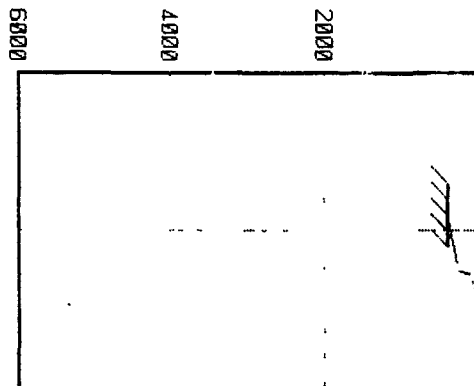
DB LOSS



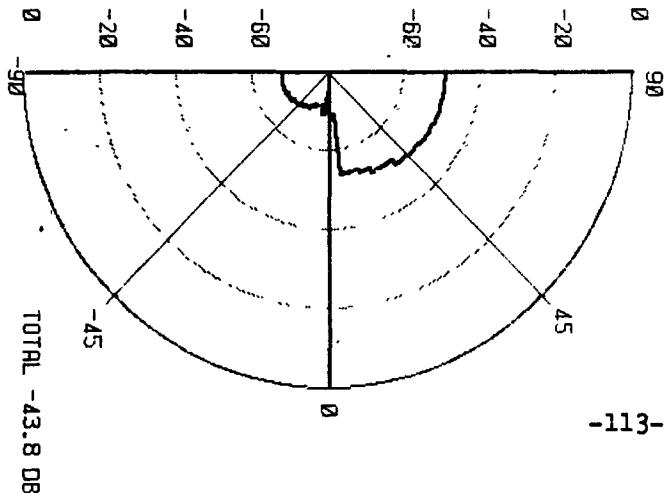
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

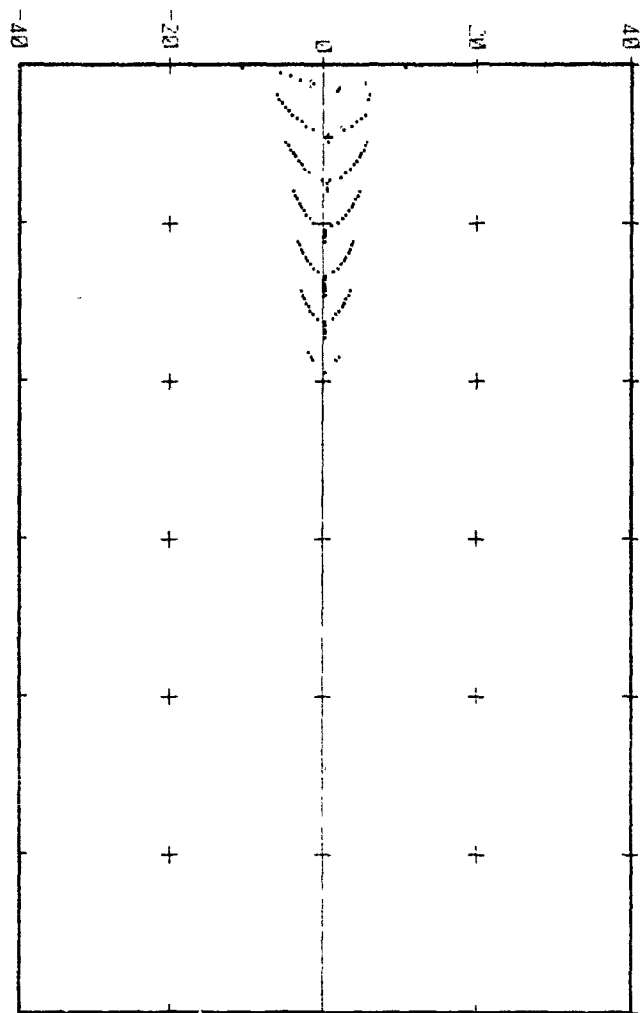
1000

1000

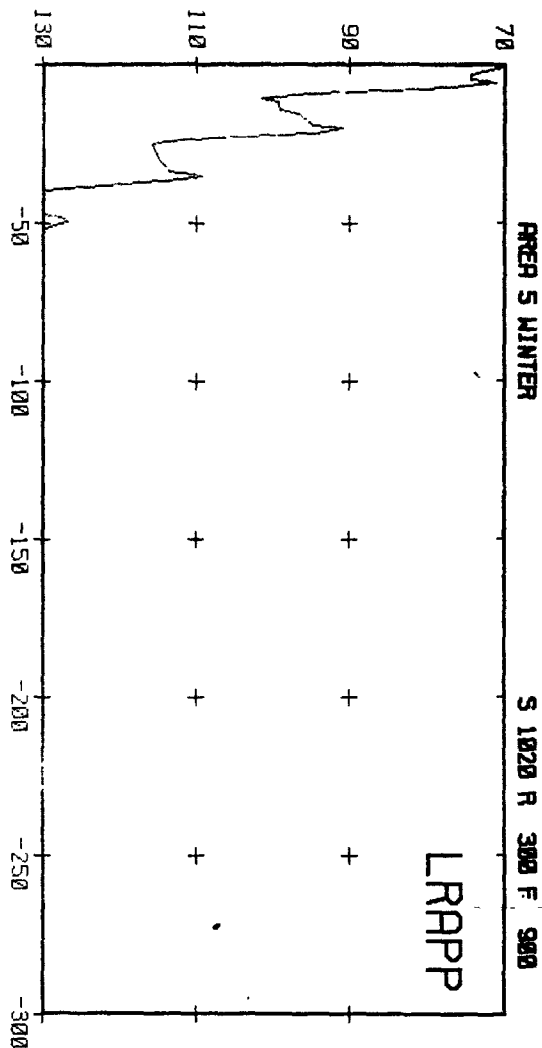
1000

1000

ARRIVAL ANGLE



DB LOSS

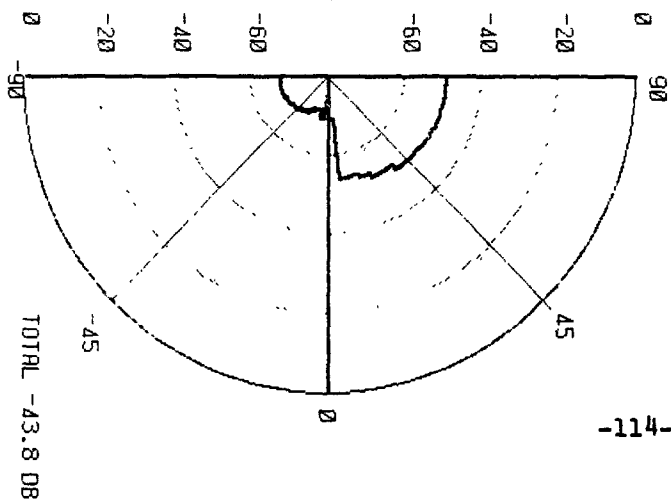


AREA 5 WINTER

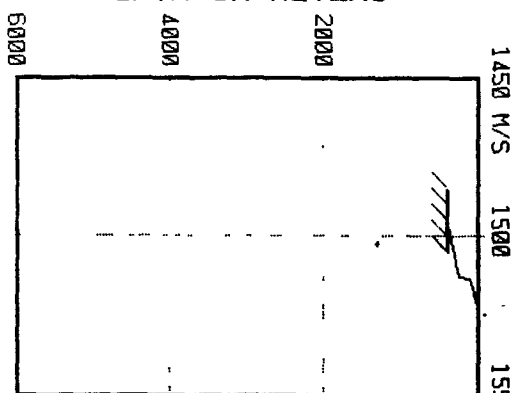
S 1020 R 300 F 900

LRAPP

NOISE (DB)



DEPTH IN METERS



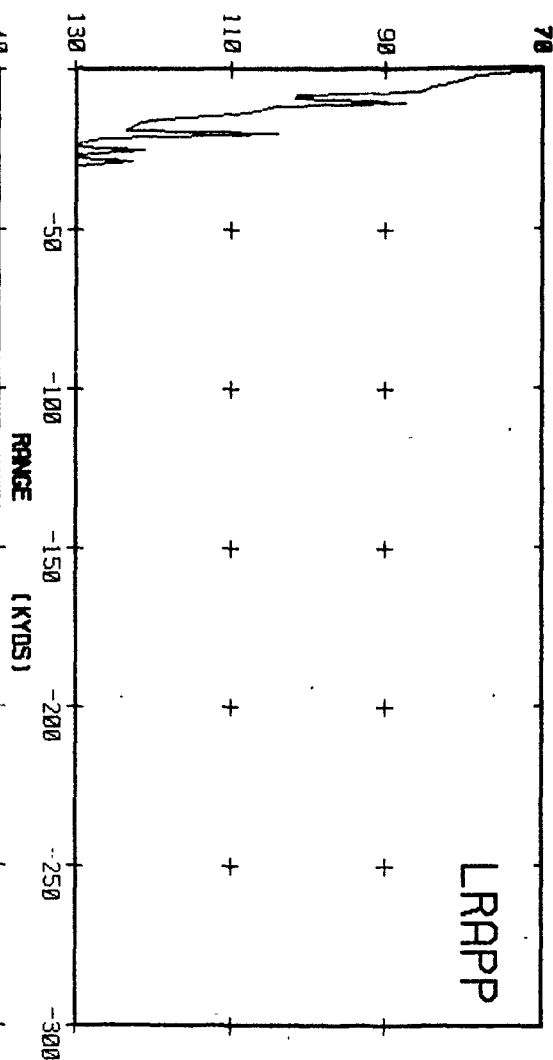
1450 M/S 1500 1550

AREA 5 WINTER

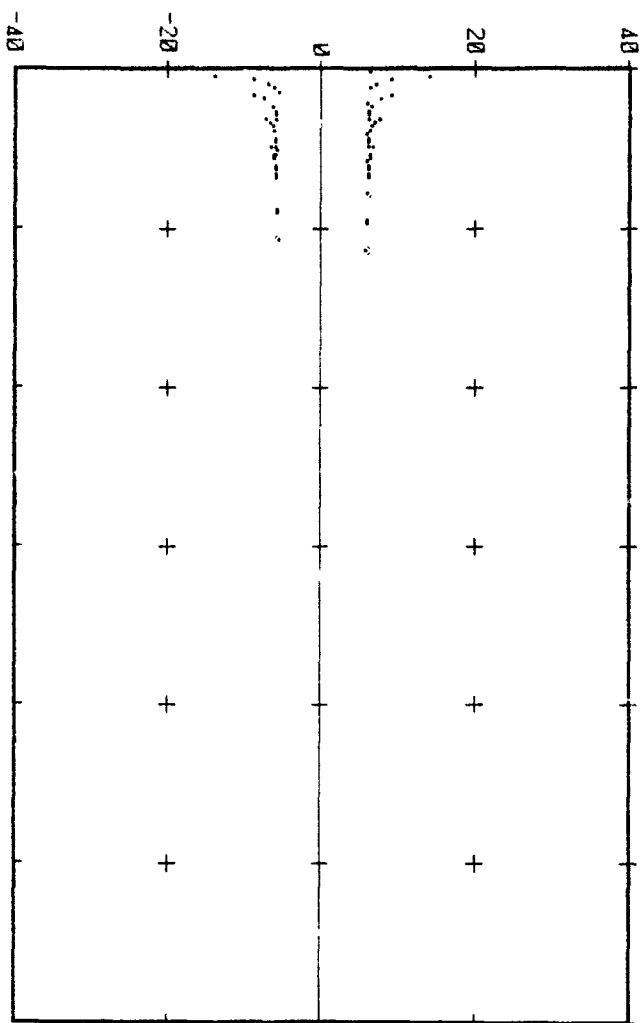
S 20 R 328 F 900

LRAPP

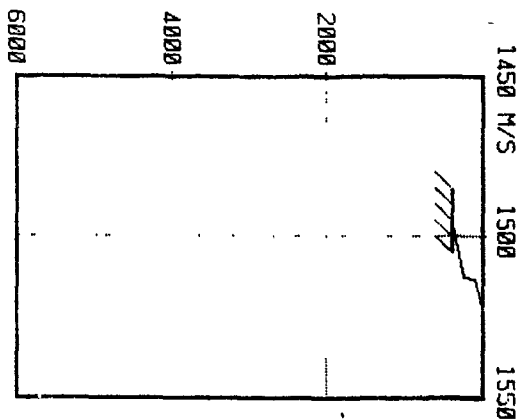
DB LOSS



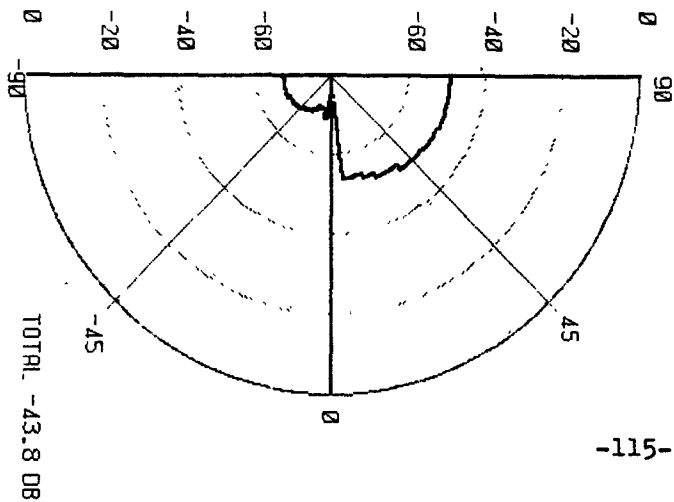
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



-115-

TOTAL -43.8 DB

1

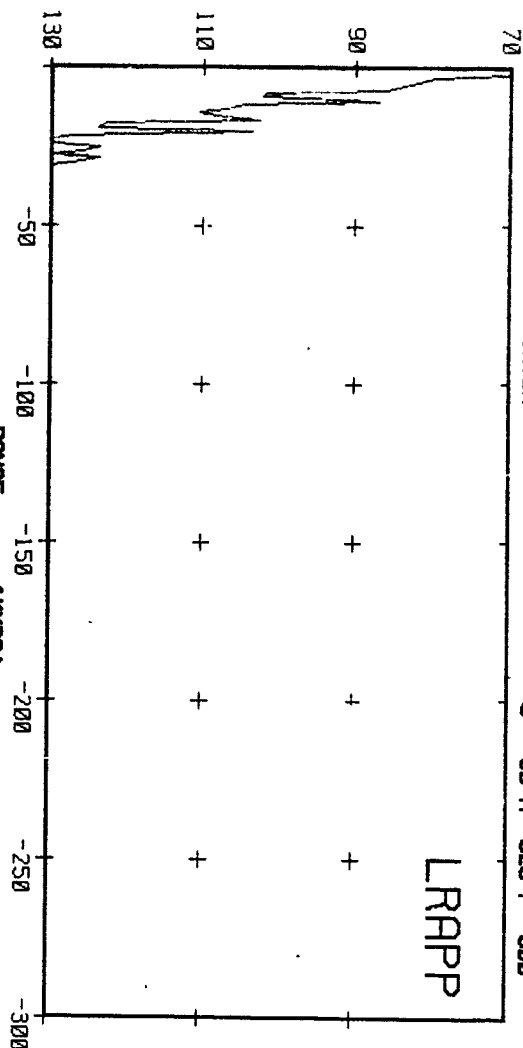
AREA 5 WINTER

S 50 R 328 F 900

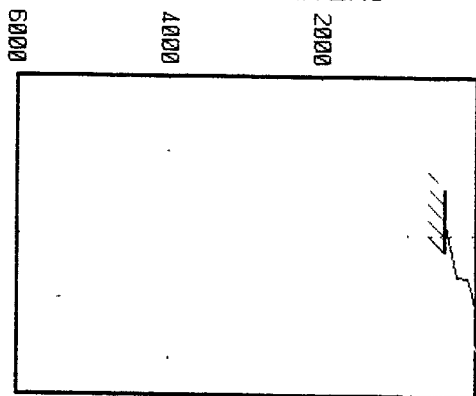
1450 M/S 1500

1550

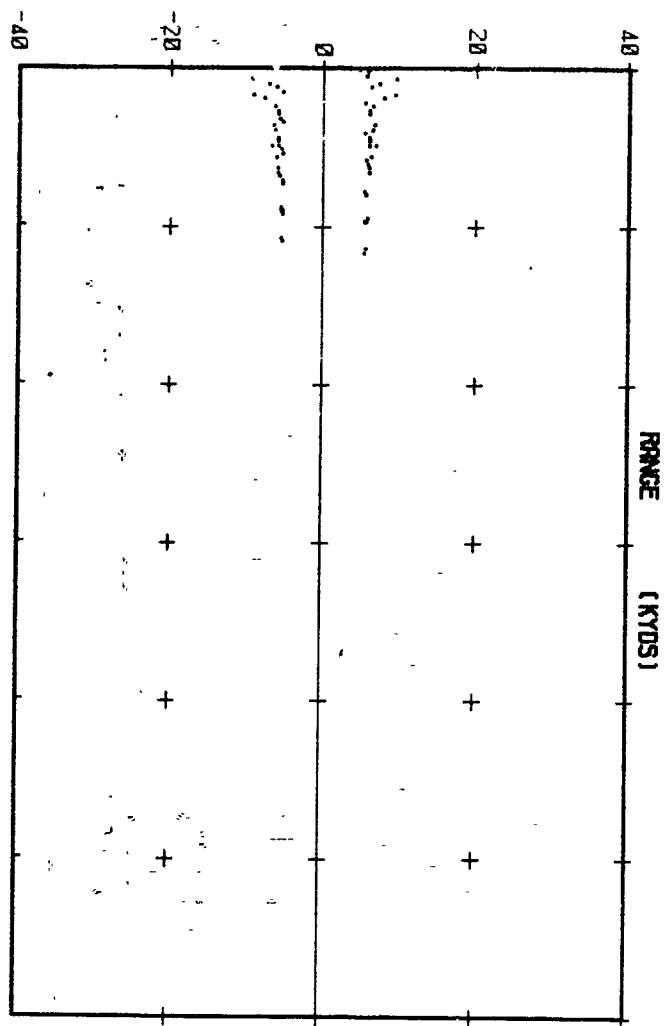
DB LOSS



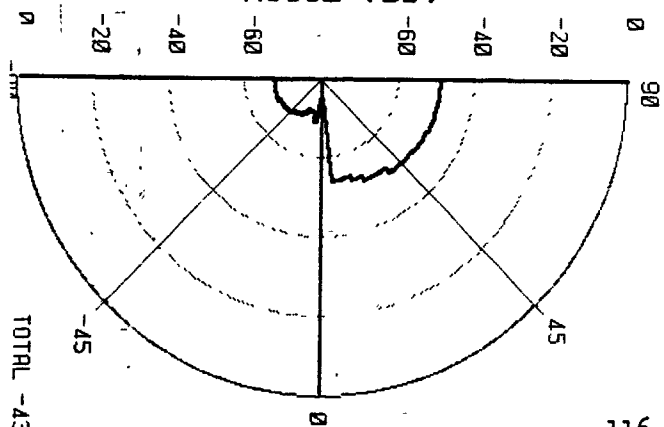
DEPTH IN METERS



ARRIVAL ANGLE



NOISE (DB)



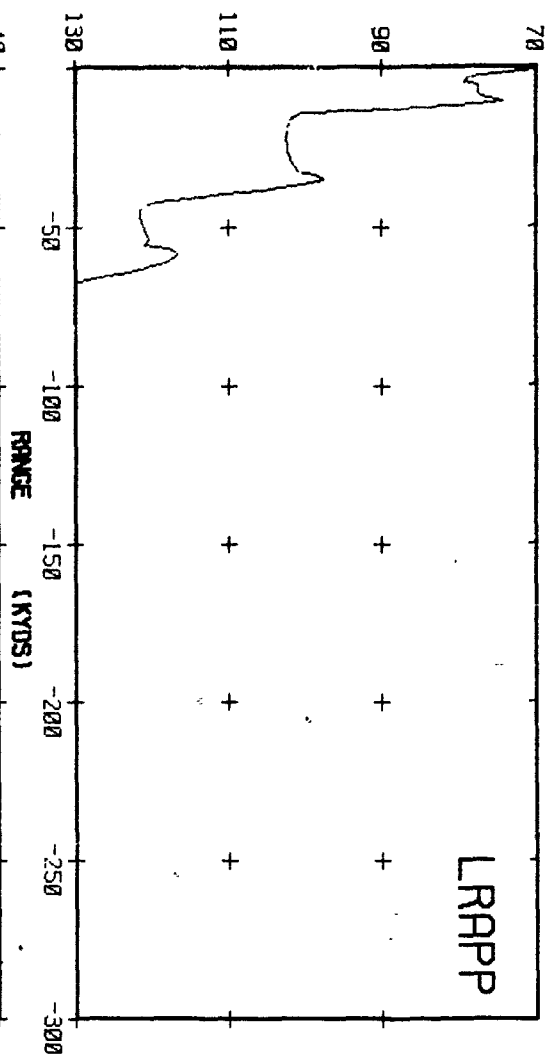
TOTRL -43.8 DB

AREA 5 WINTER

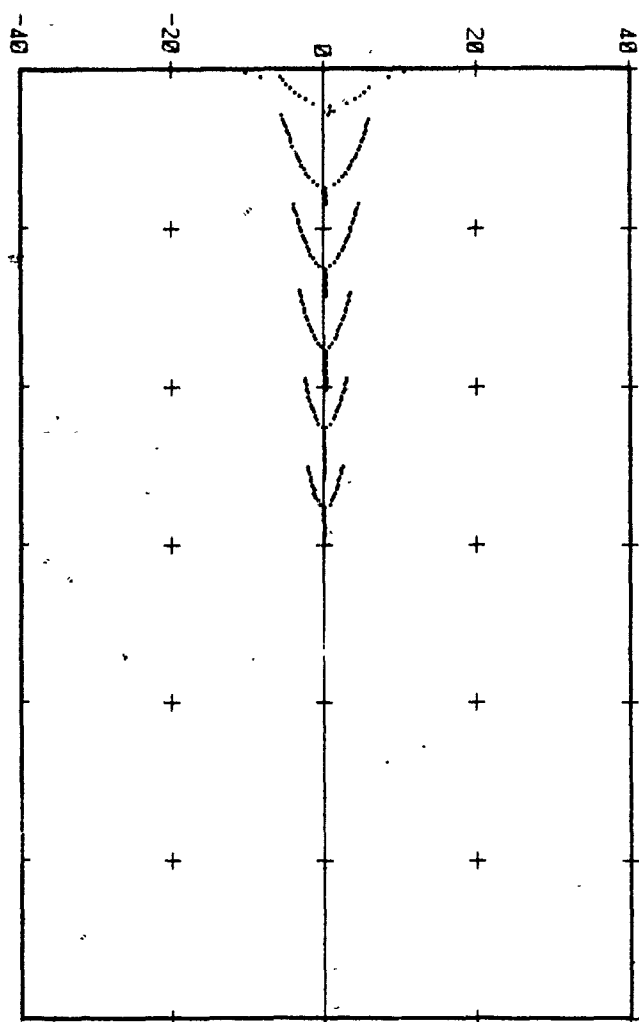
S 1020 R 328 F 900

LRAPP

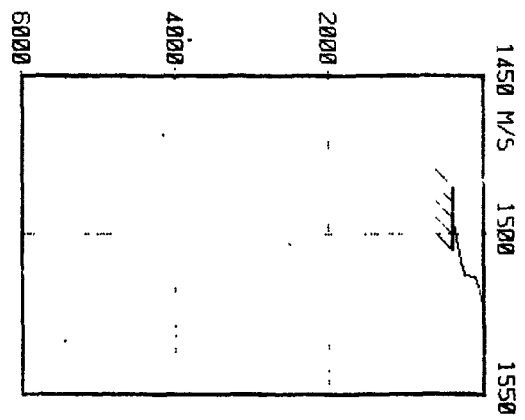
DB LOSS



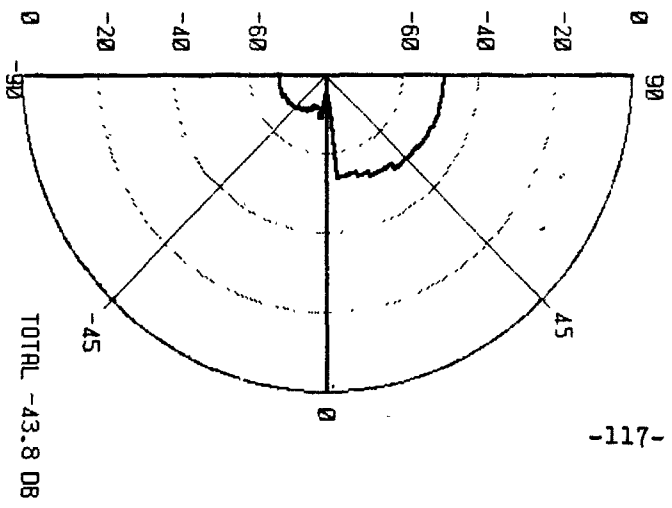
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



AREA 5 WINTER

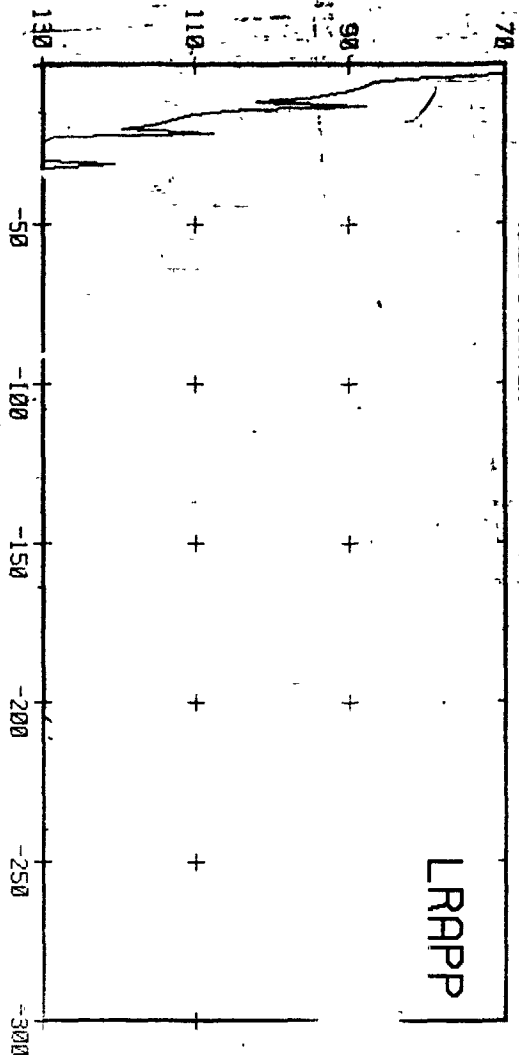
S 20 R 920 F 900

1450 M/S 1500

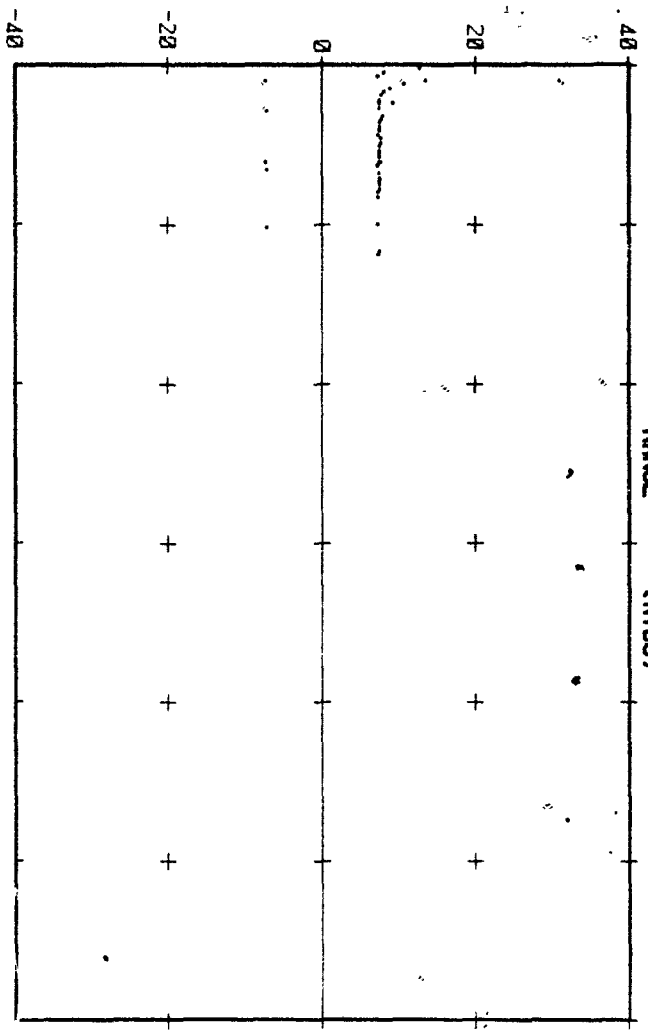
1550

LRAPP

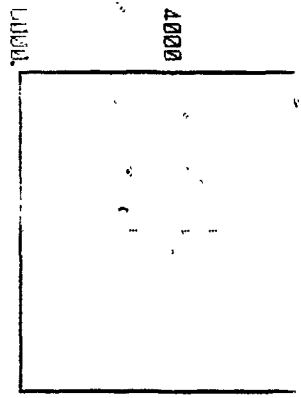
DB LOSS



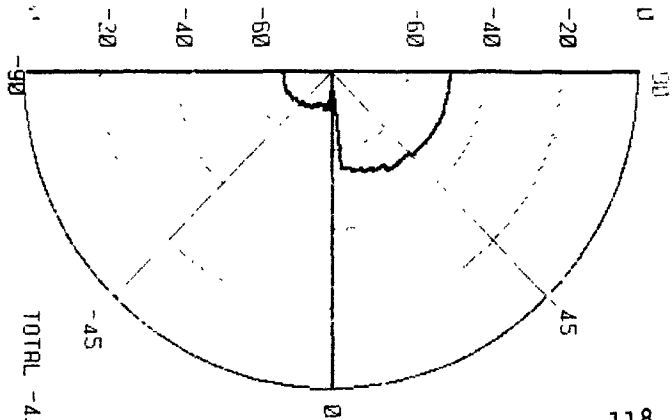
ARRIVAL ANGLE



DEPTH IN K



NOISE (DB)



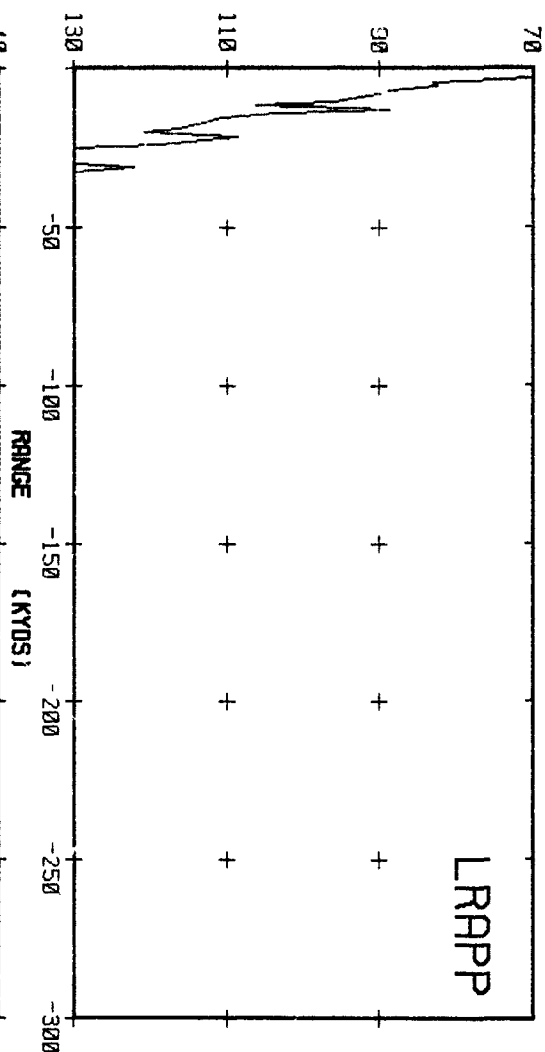
TOTAL -43.9 DB

AREA 5 WINTER

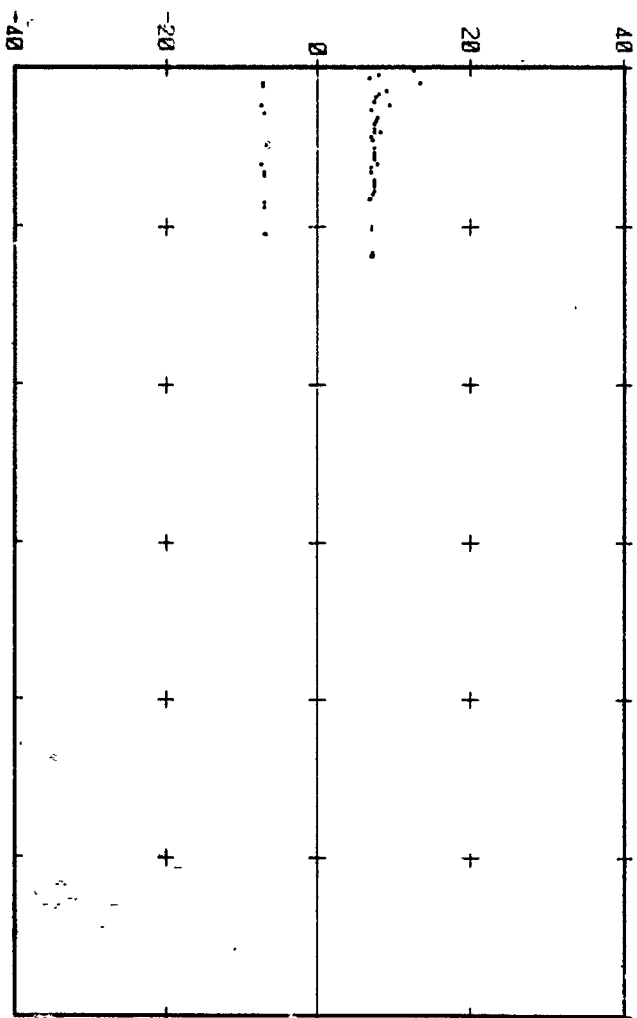
S 50 R 920 F 980

LRAPP

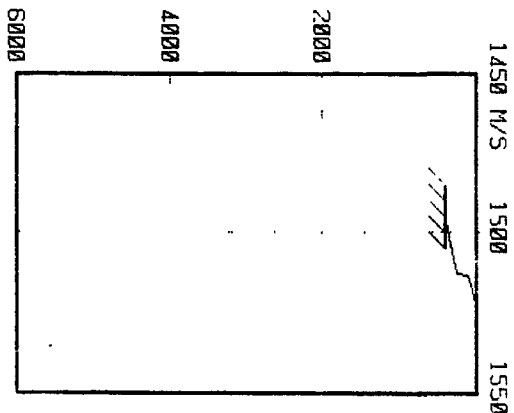
DB LOSS



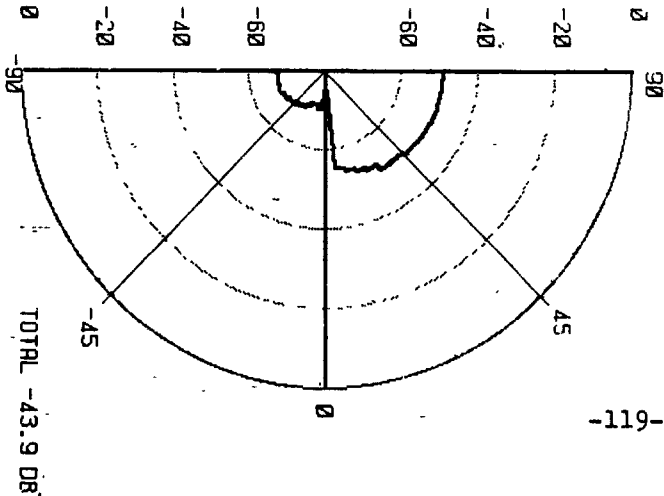
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

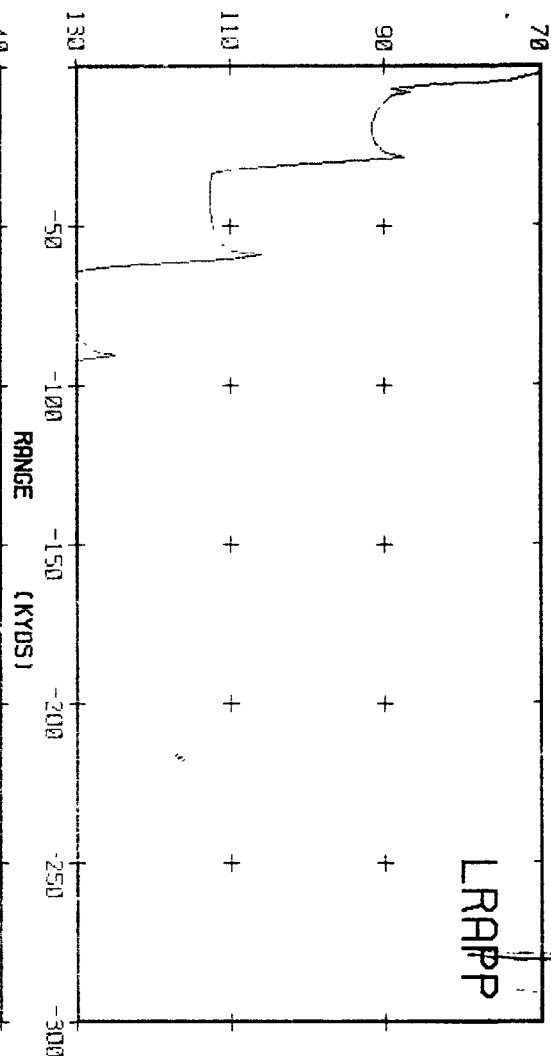


AREA 5 WINTER

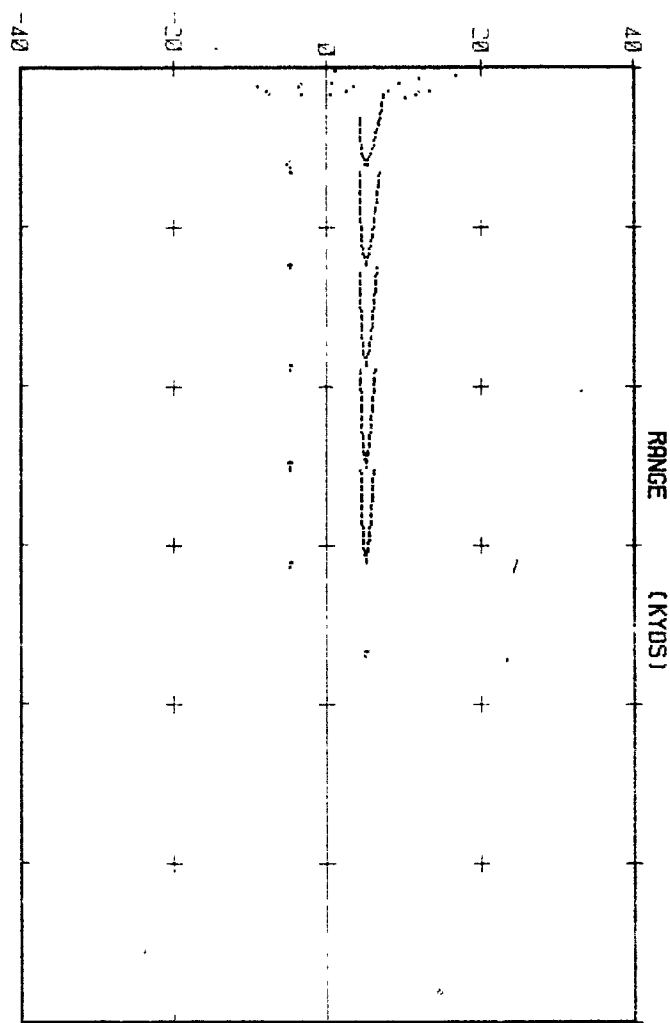
S 1020 R 920 F 900

LRAPP

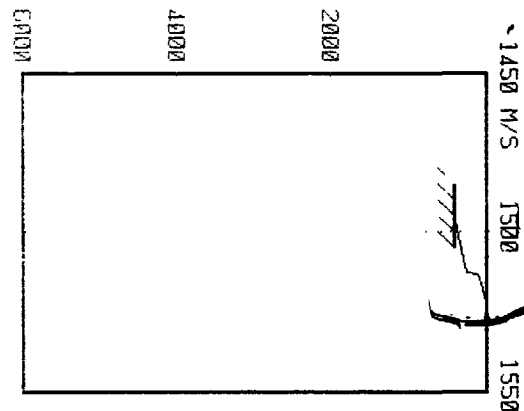
DB LOSS



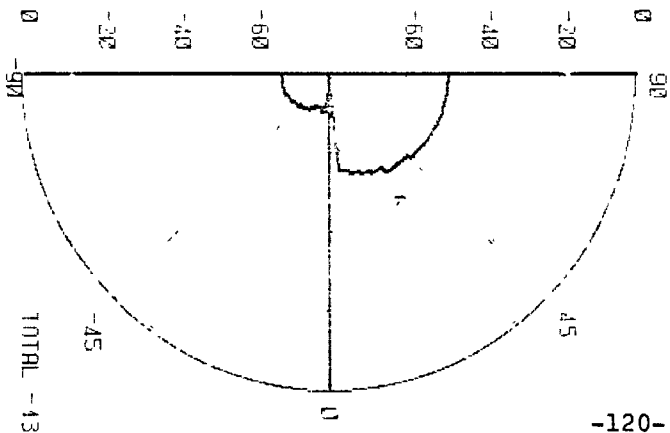
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



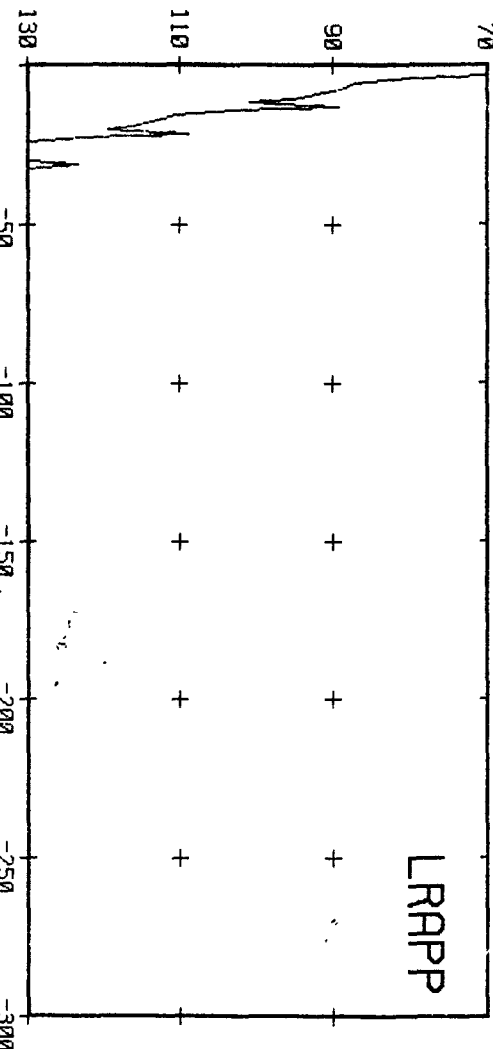
TOTAL -13.9 DB

PRER 5 WINTER

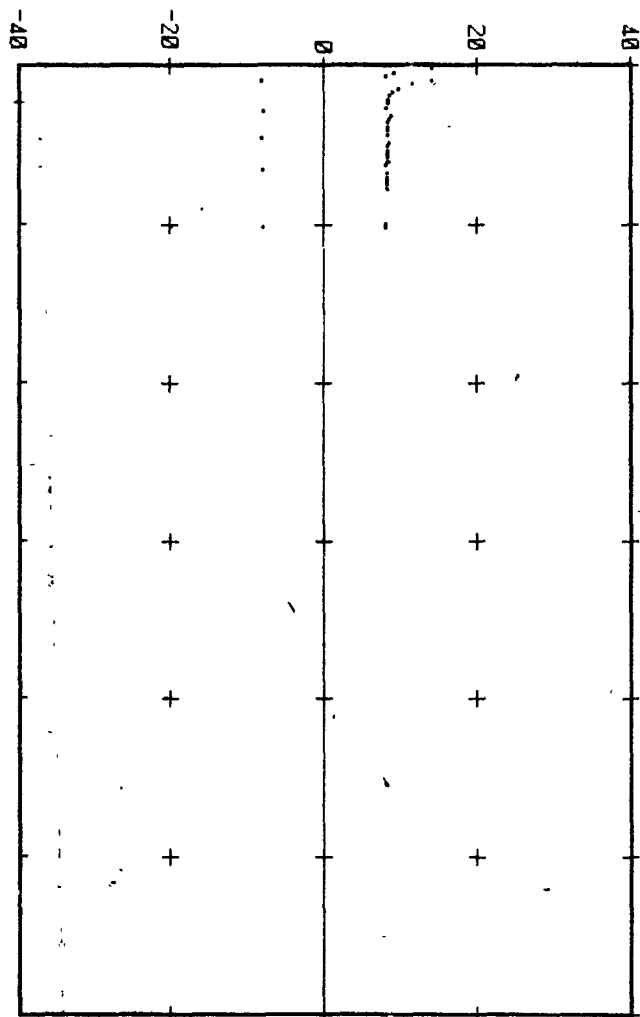
S 20 R 1000 F 900

1450 M/S 1500 1550

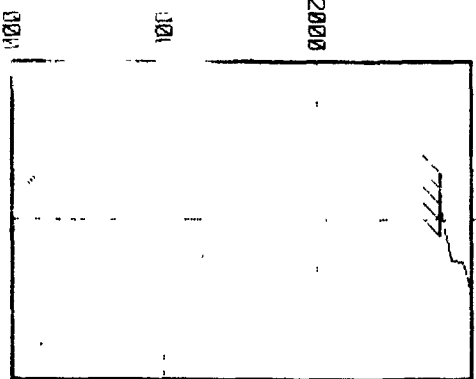
DB LOSS



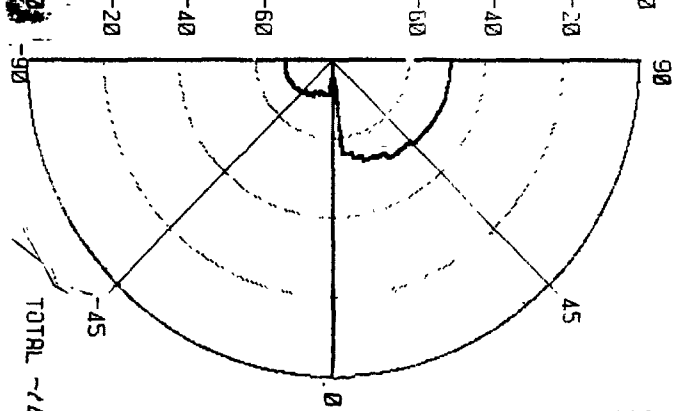
ARRIVAL ANGLE

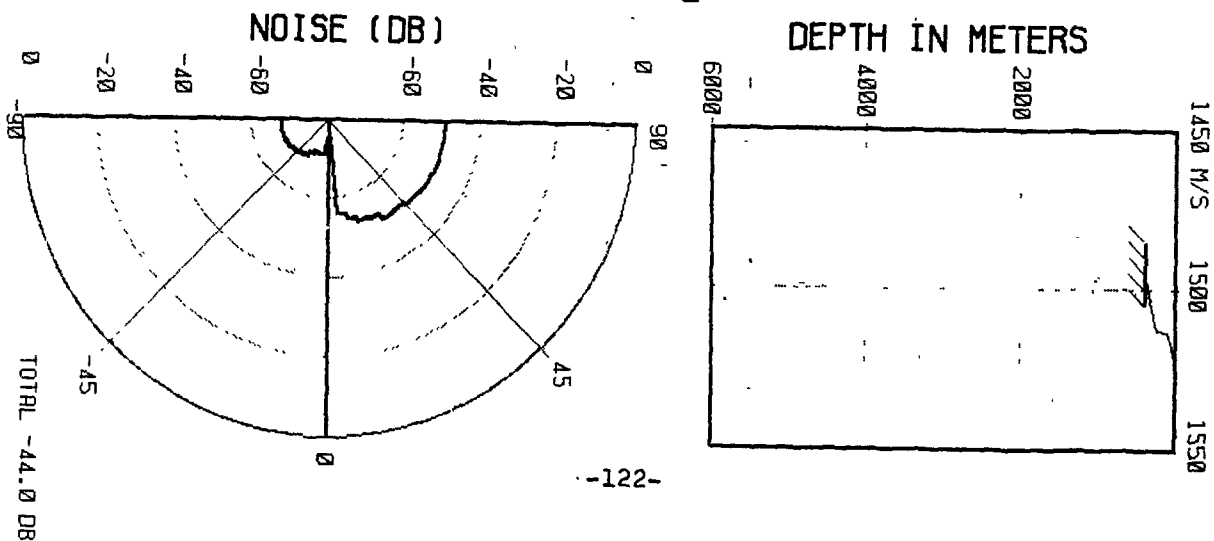
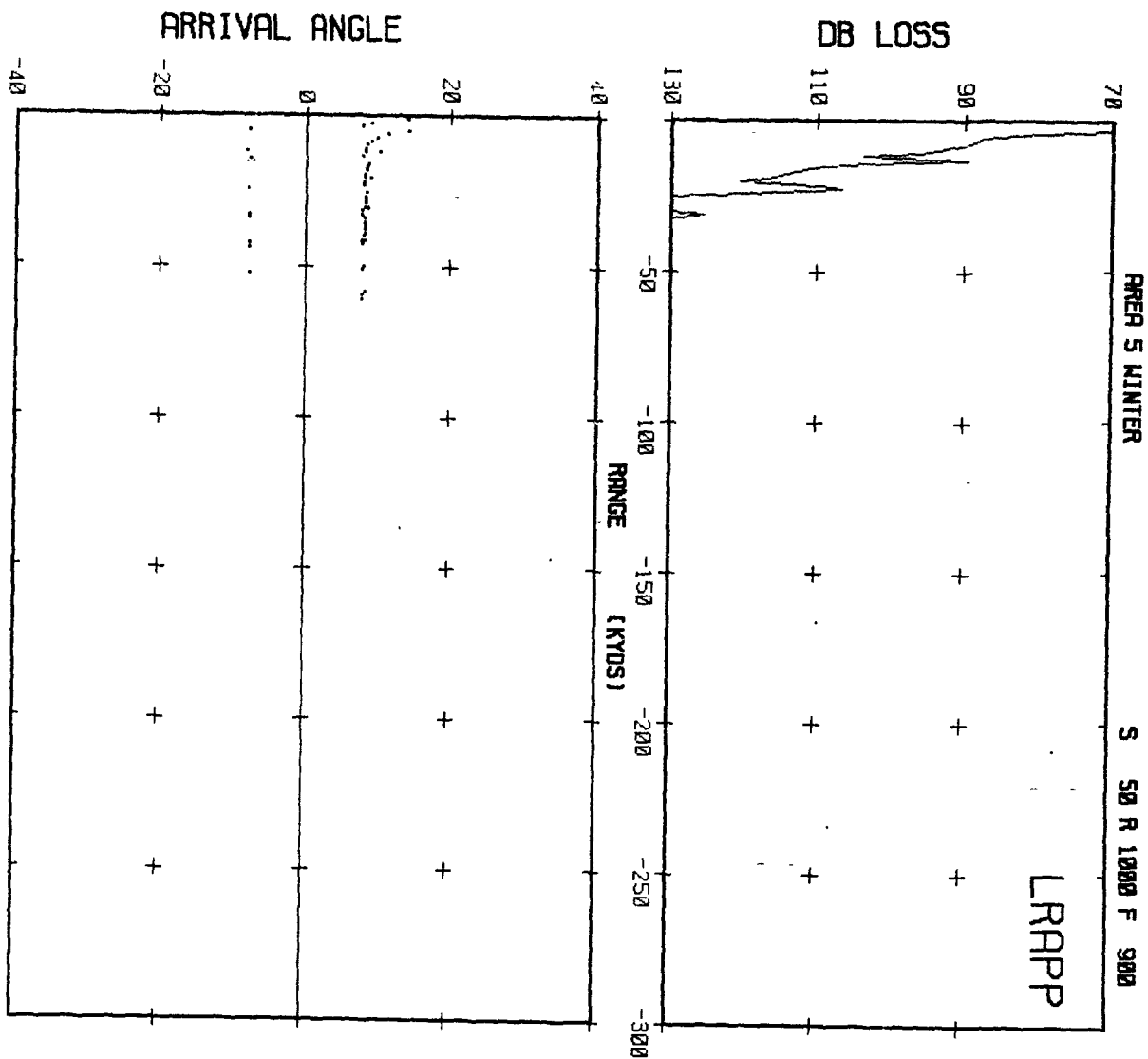


IN METERS



NOISE (DB)



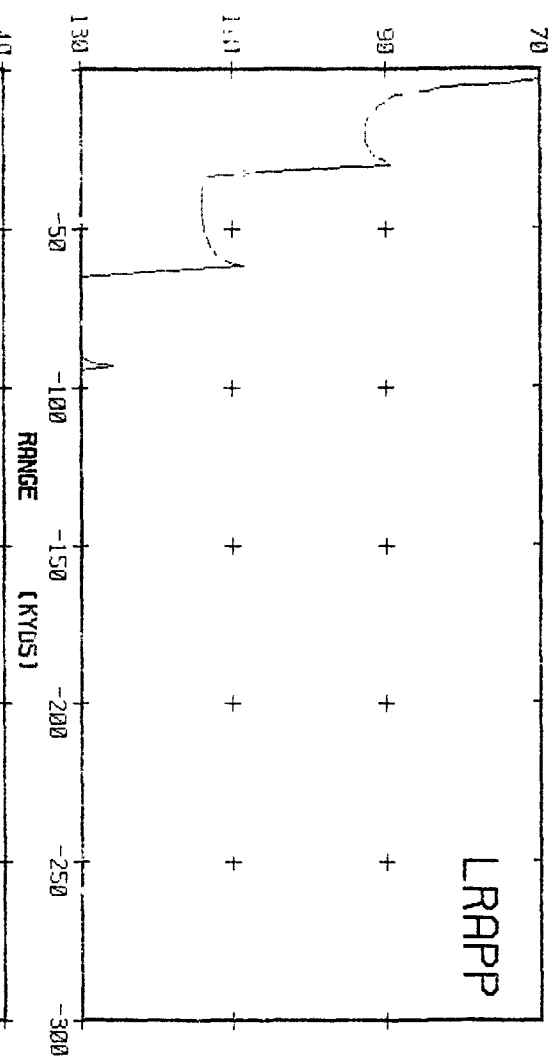


ARRR 5 WINTER

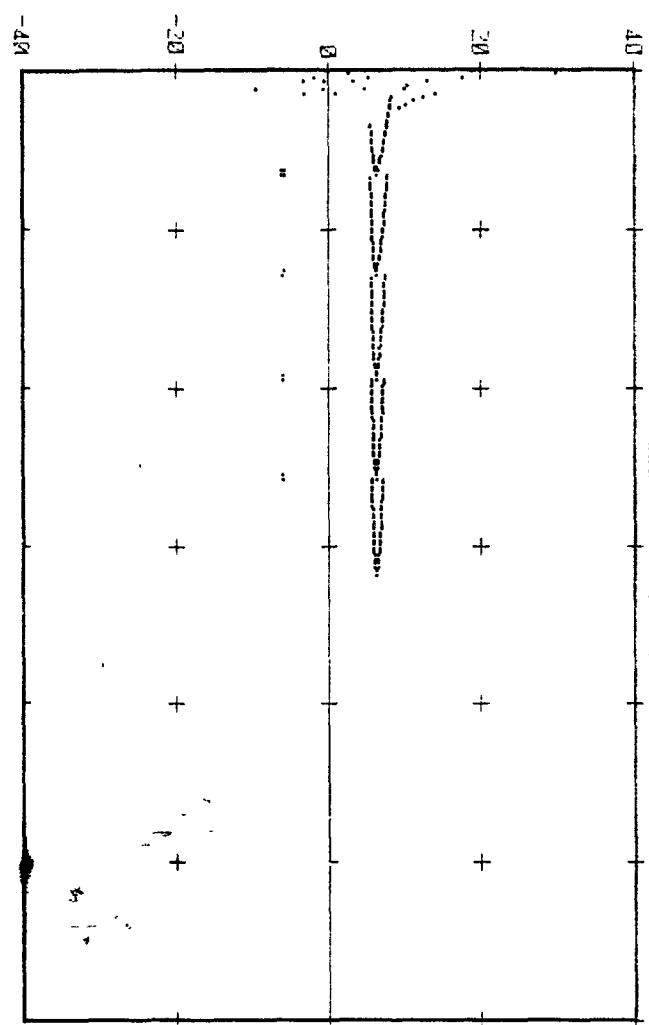
S 1020 R 1000 F 900

LRAPP

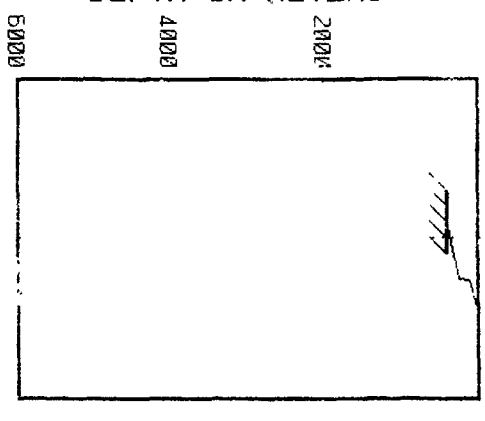
DB LOSS



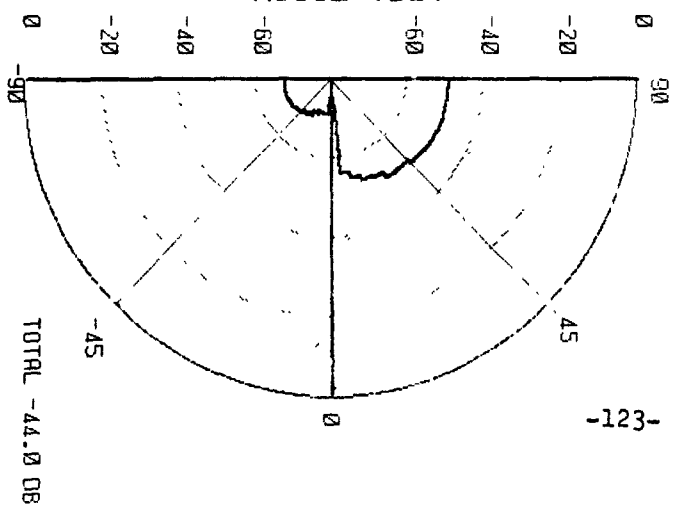
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



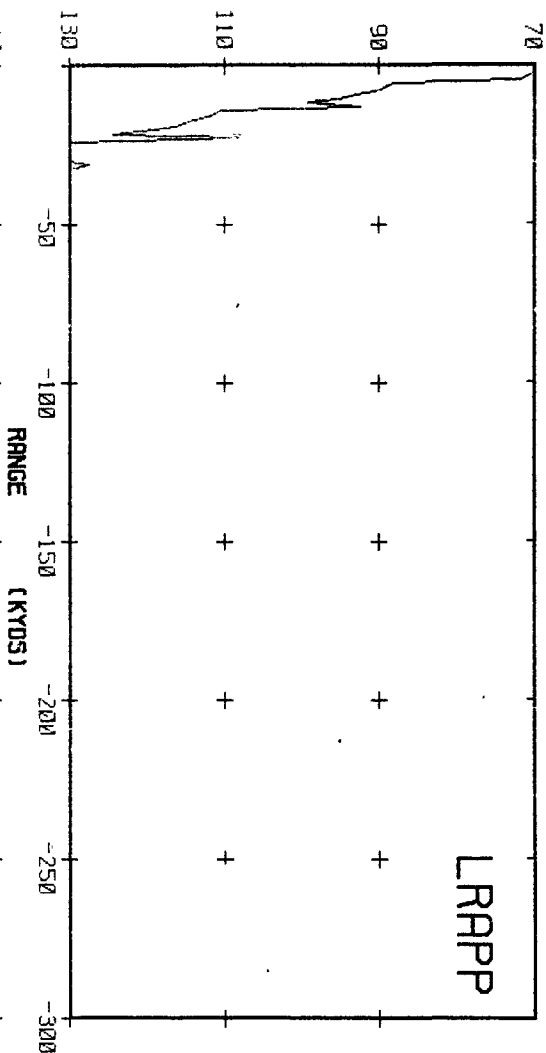
TOTAL -44.0 DB

AREA 5 MINTER

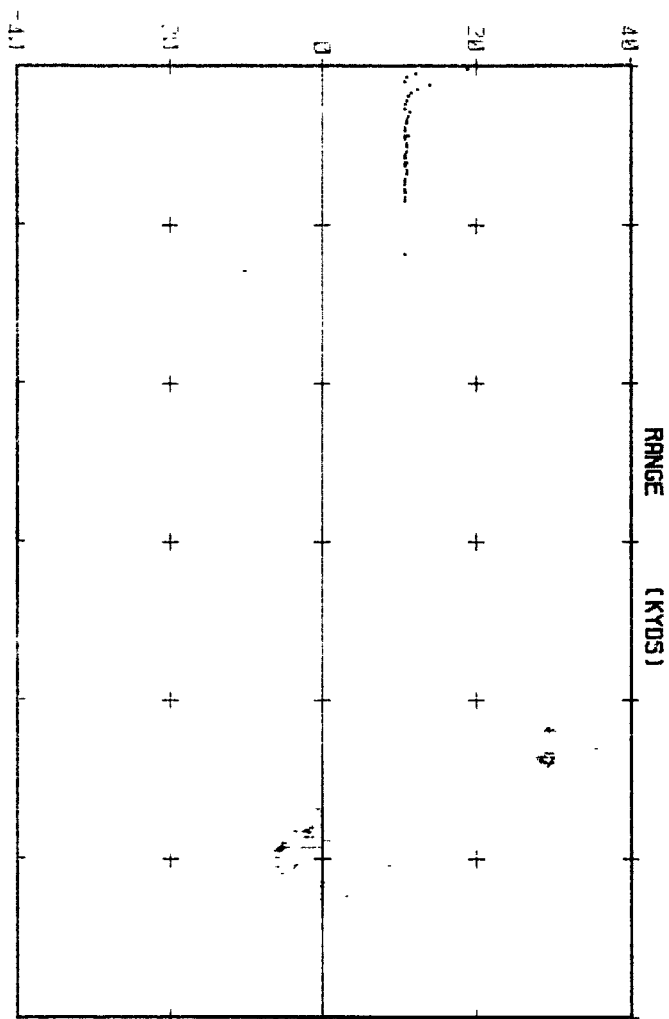
S 20 R 1312 F 900

1450 M/S 1500 1550

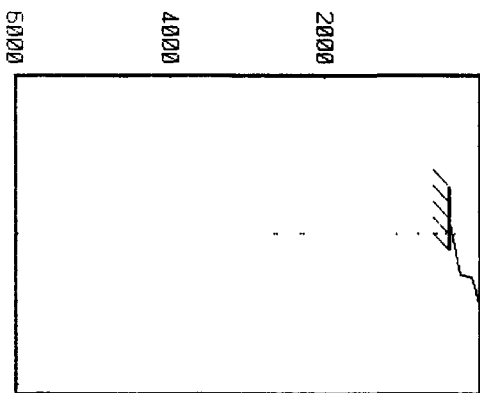
DB LOSS



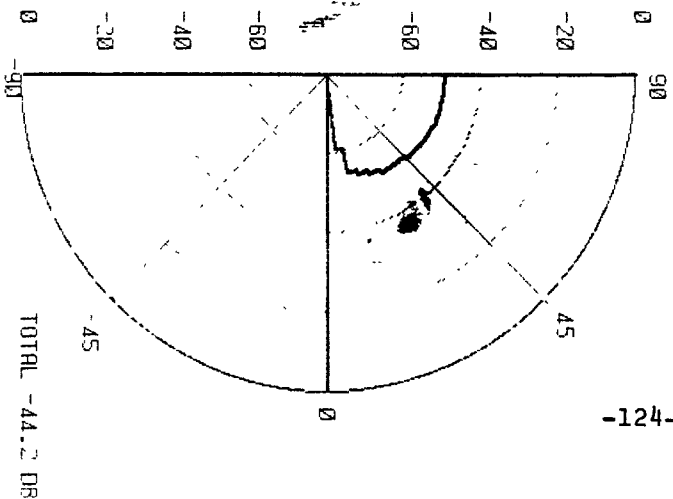
ARRIVAL ANGLE

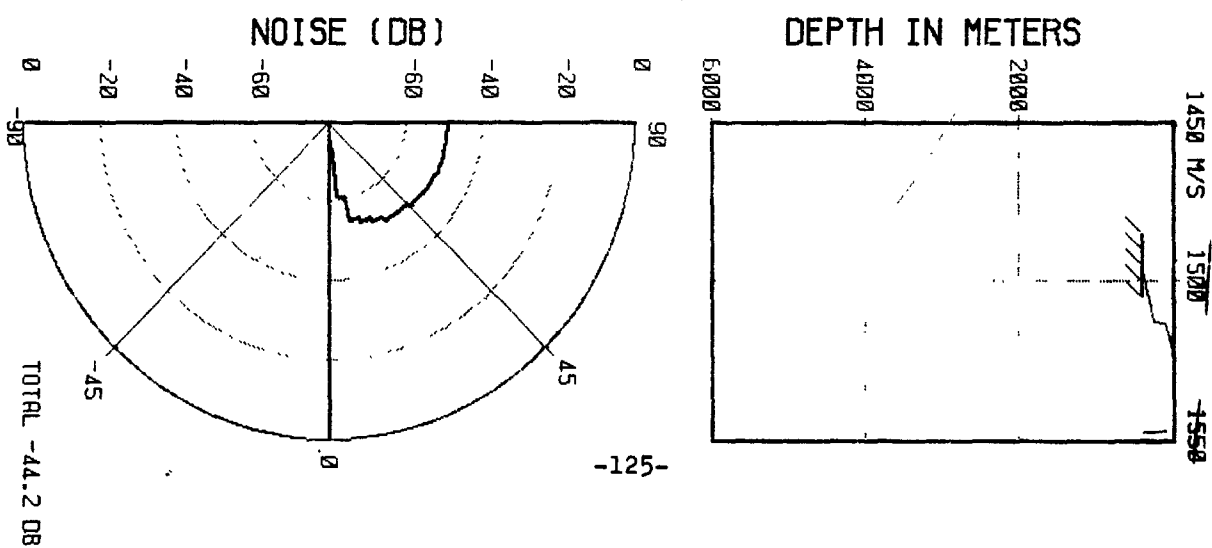
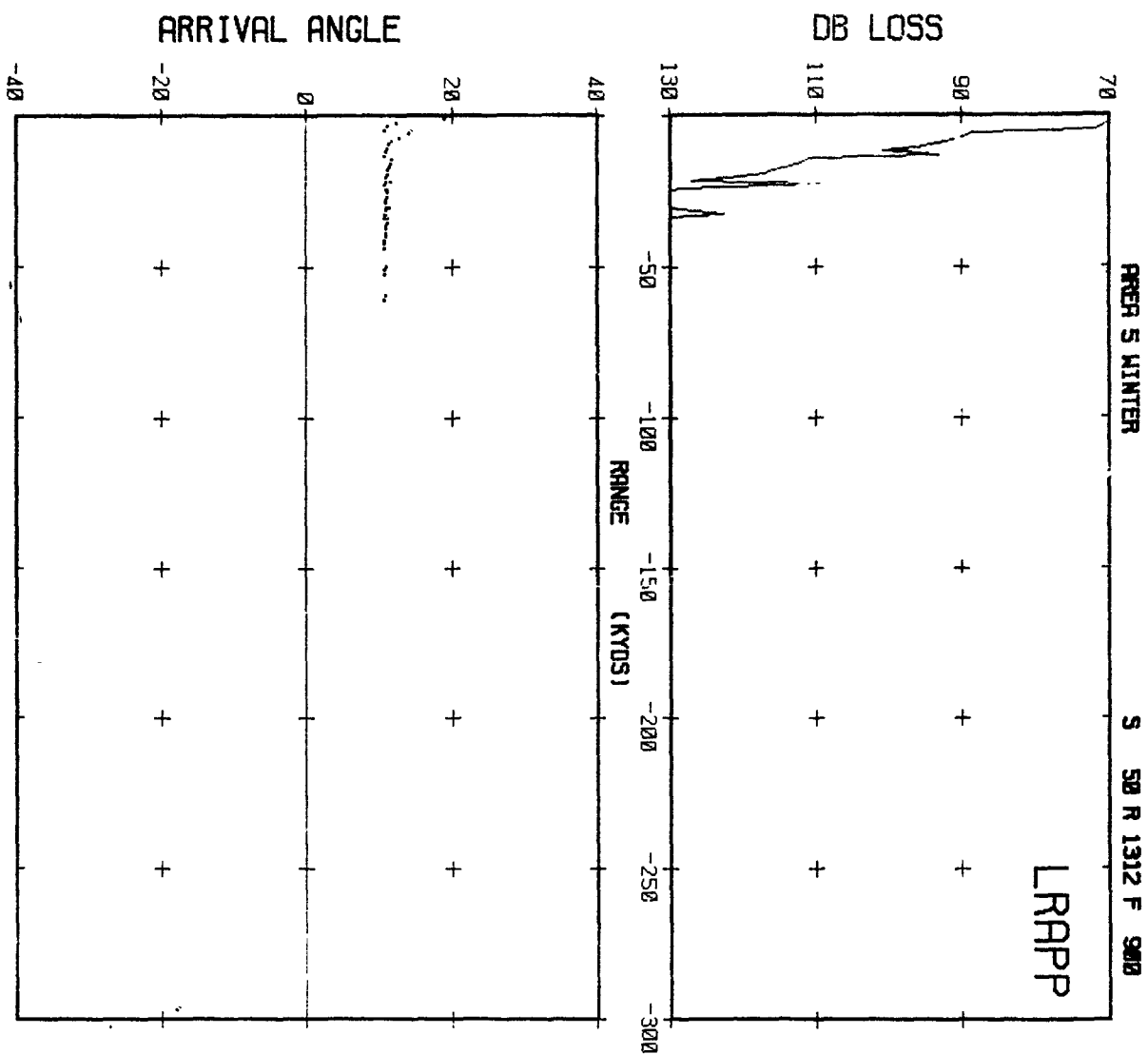


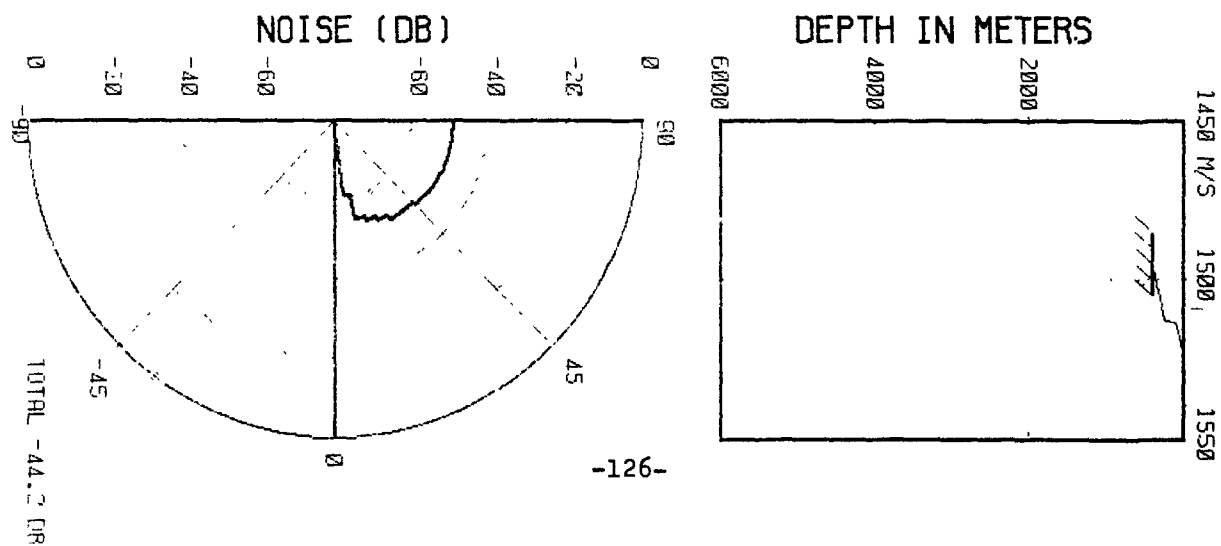
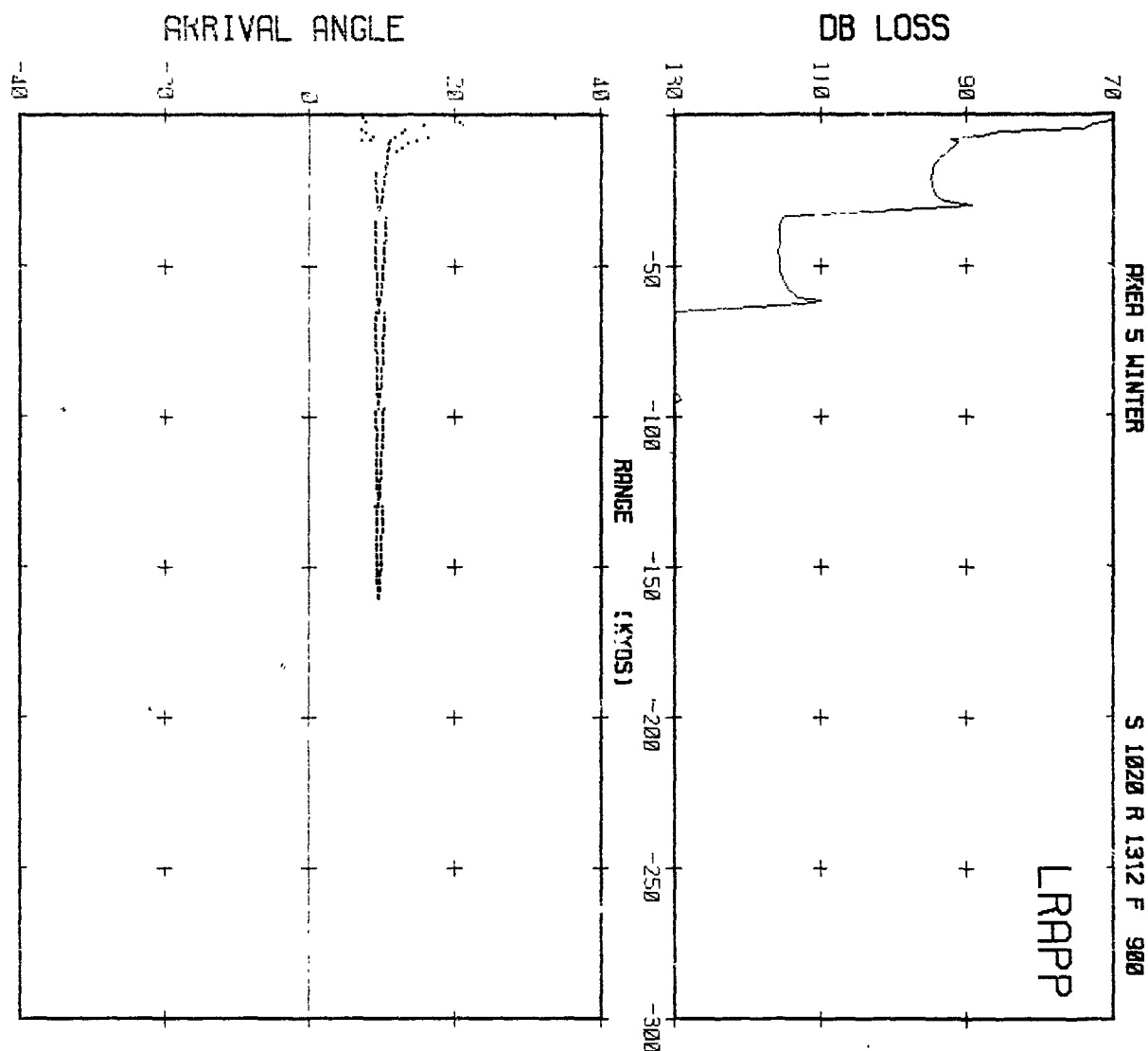
DEPTH IN METERS

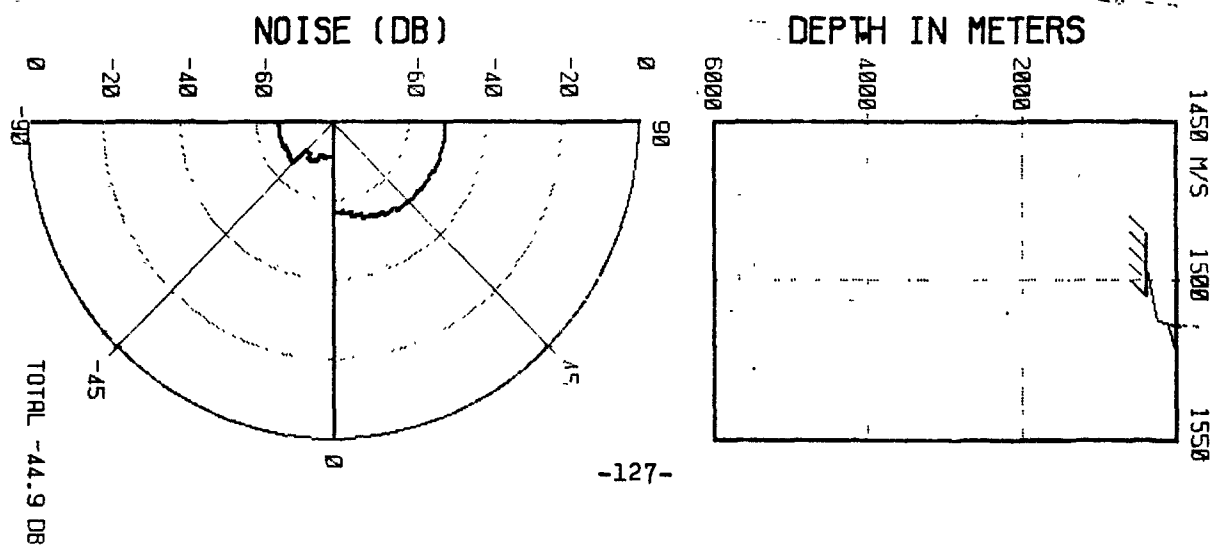
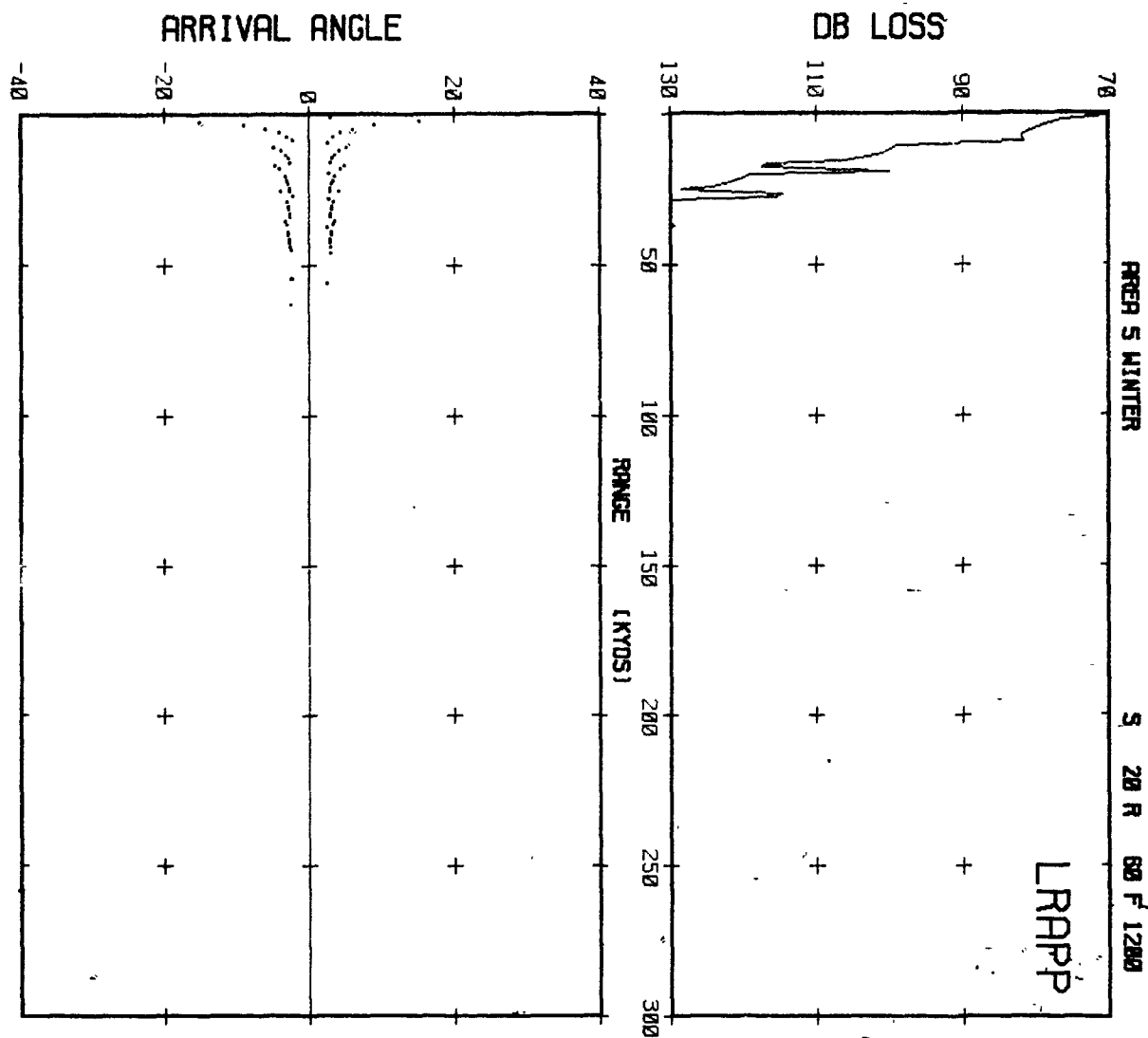


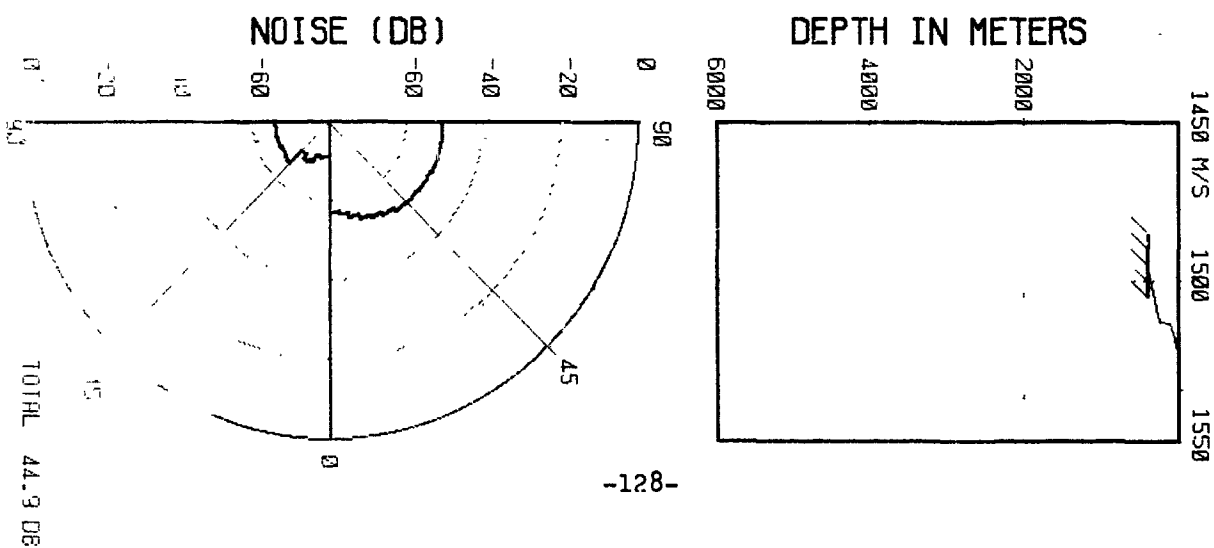
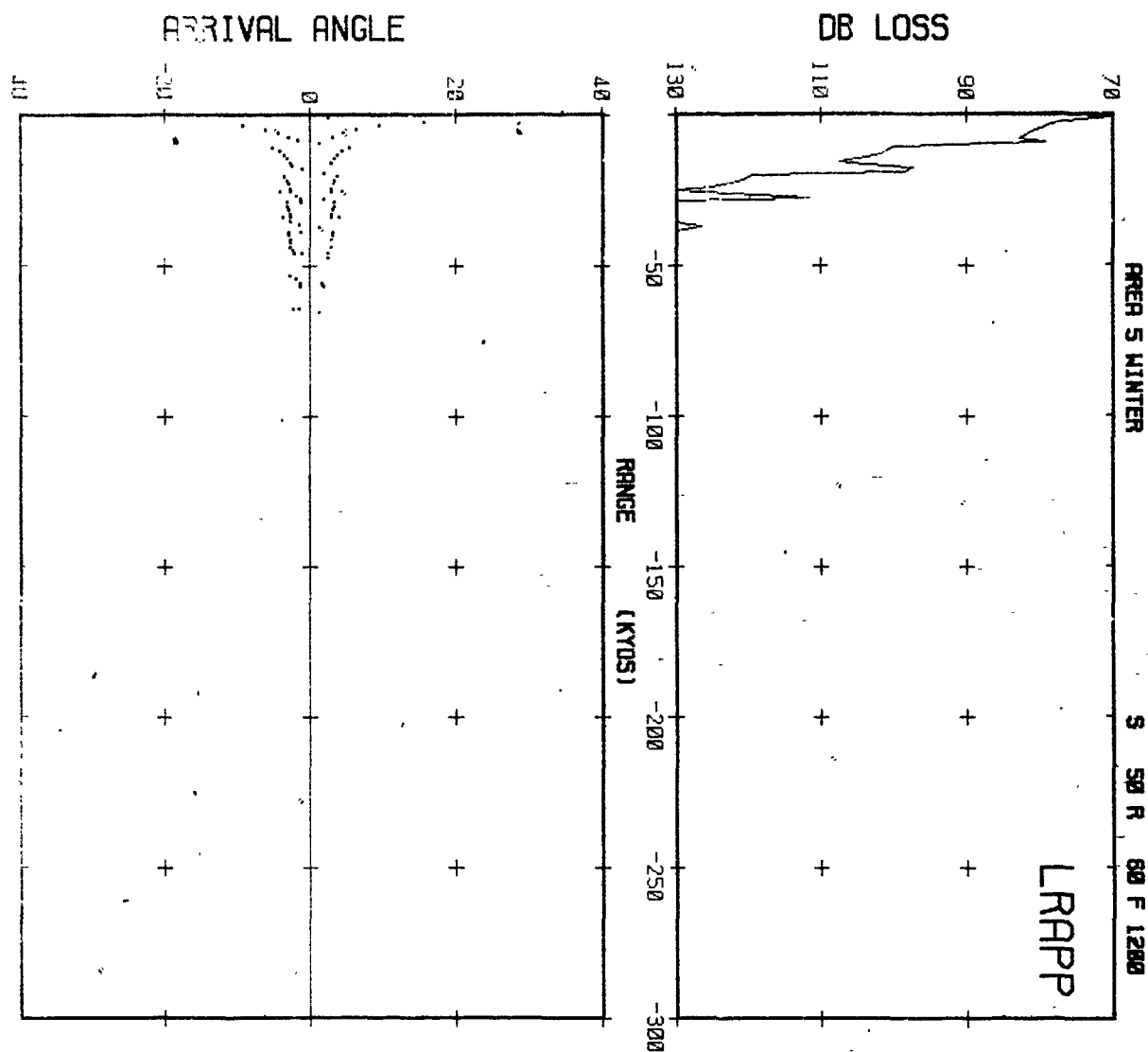
NOISE (DB)









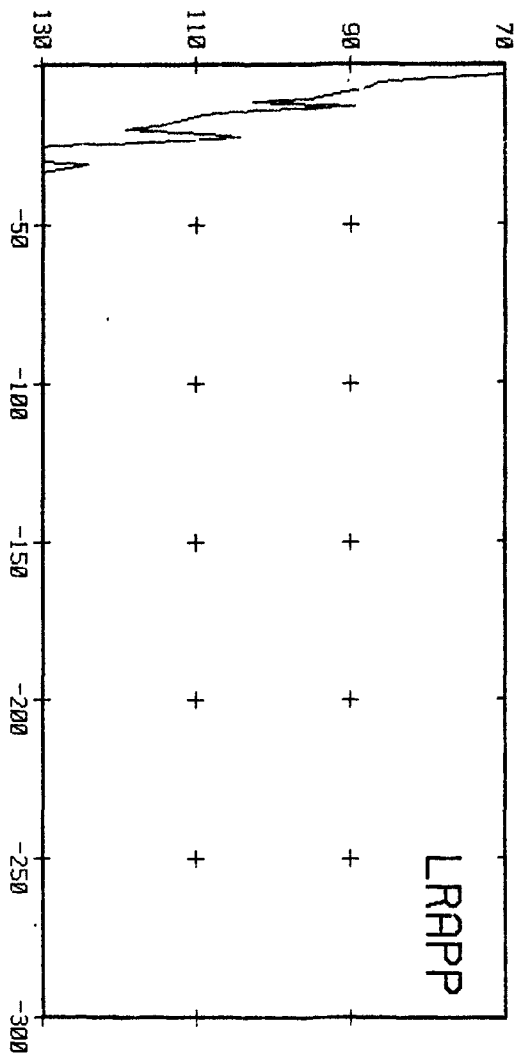


AREA 5 WINTER

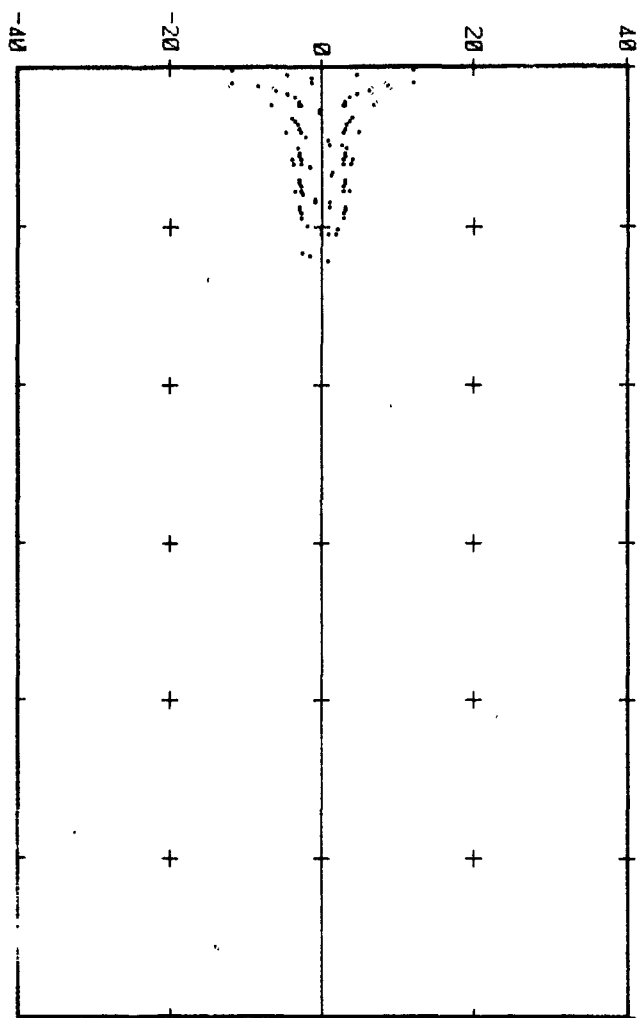
S 1020 R 60 F 1200

1450 M/S 1500 1550

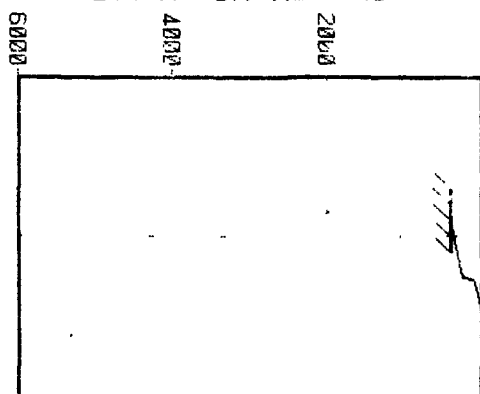
DB LOSS



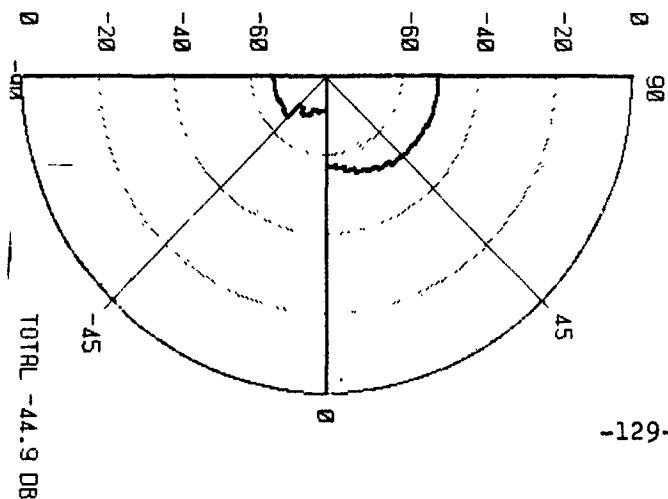
ARRIVAL ANGLE



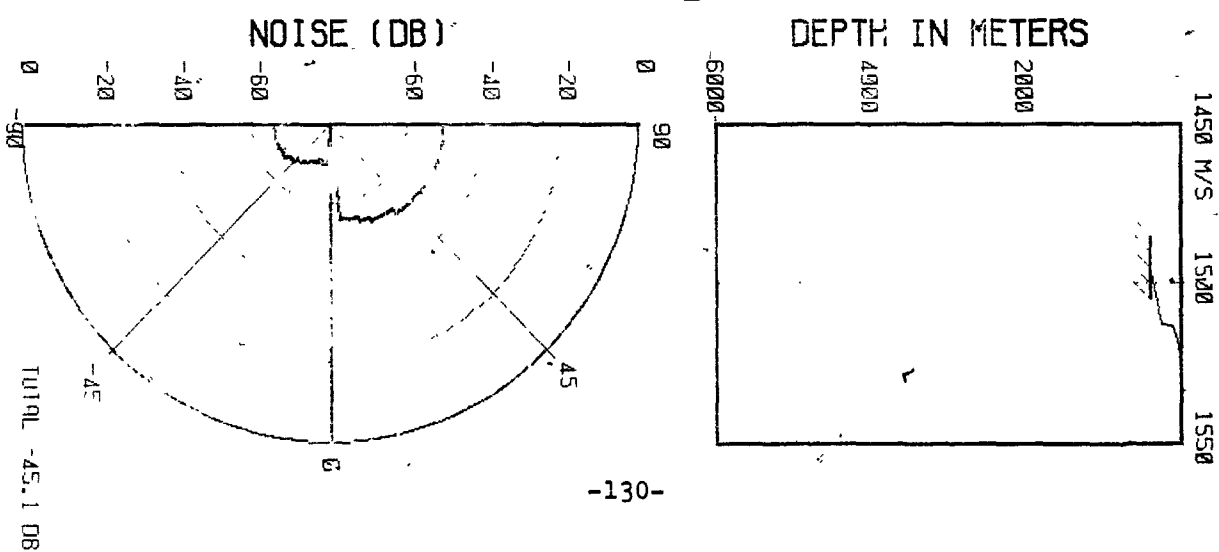
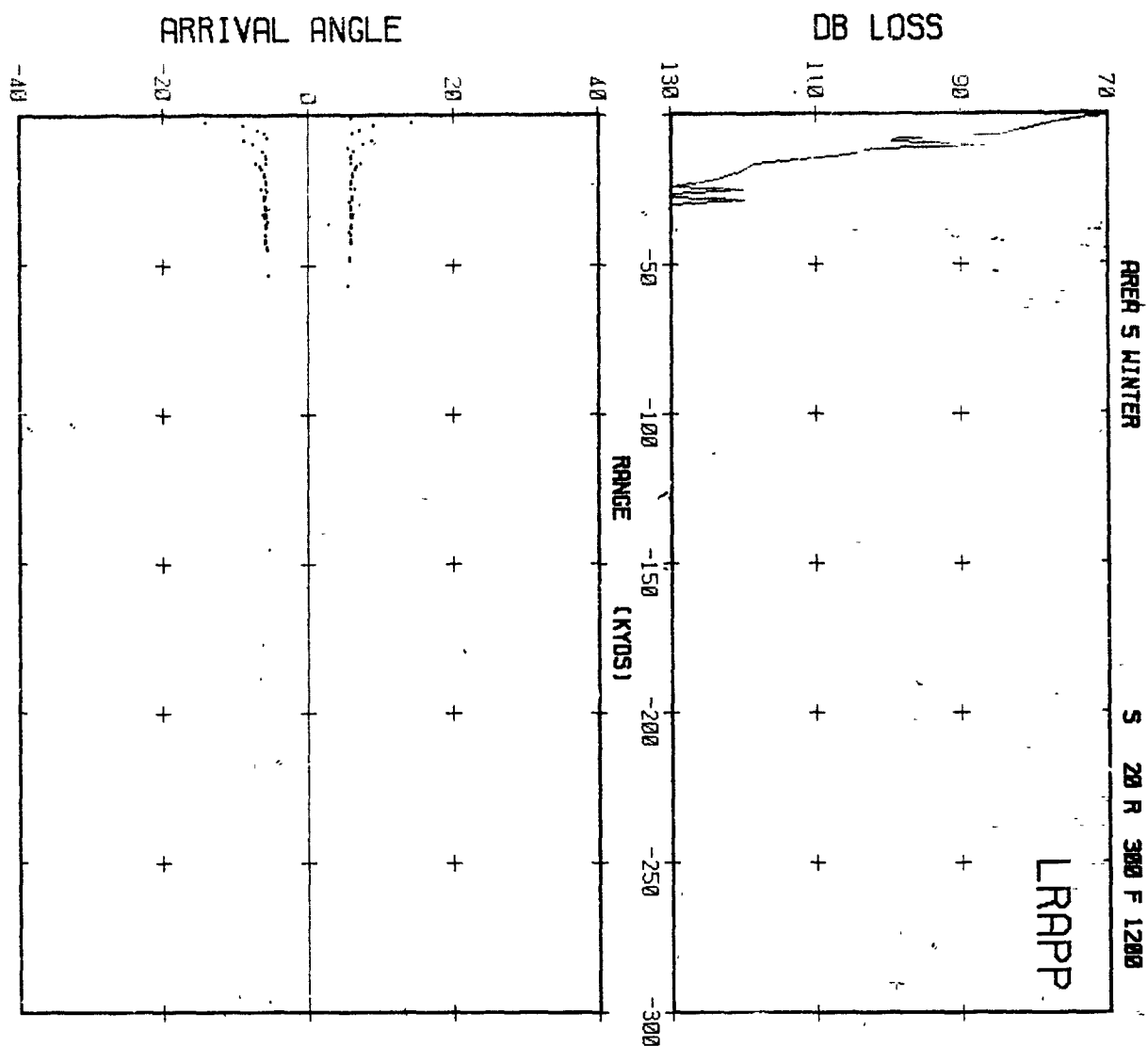
DEPTH IN METERS



NOISE (DB)



Page 1

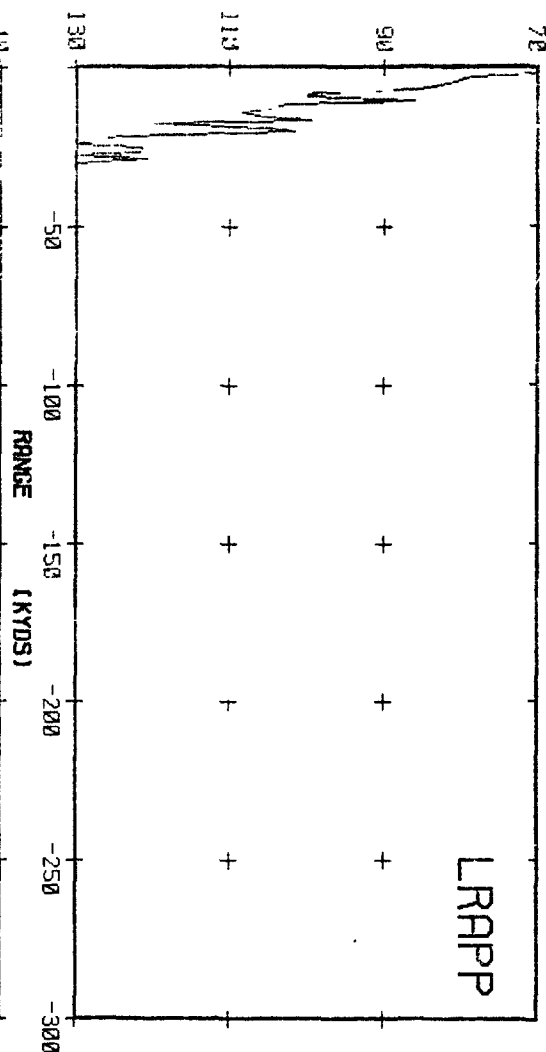


SIRER 5 WINTER

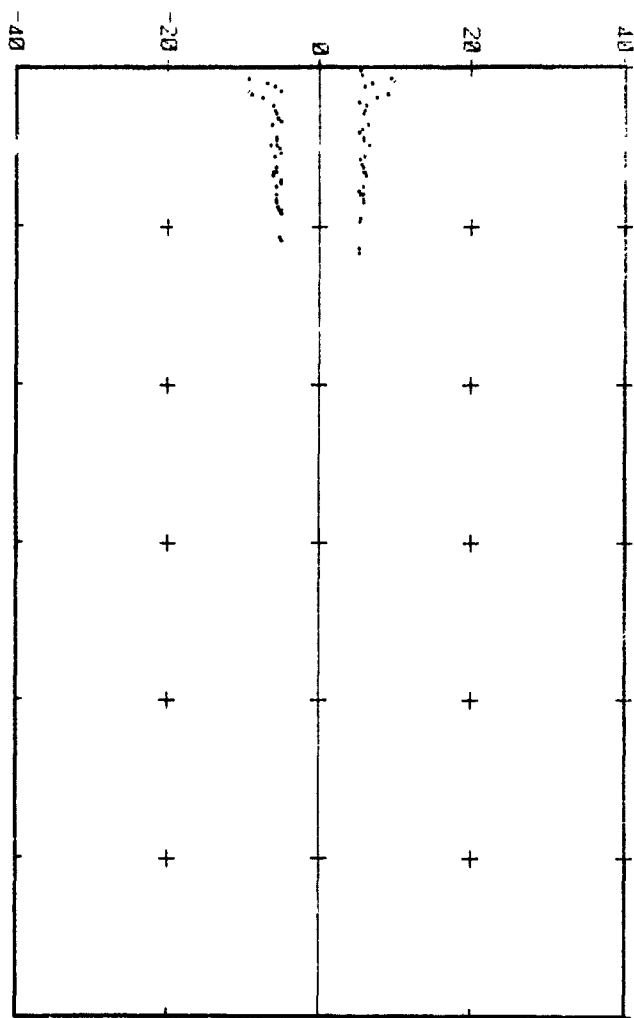
S 50 R 300 F 1200

1450 M/S 1500 1550

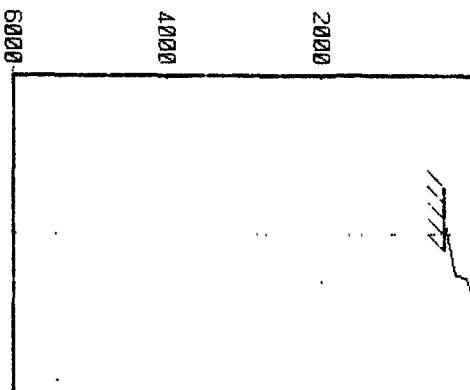
DB LOSS



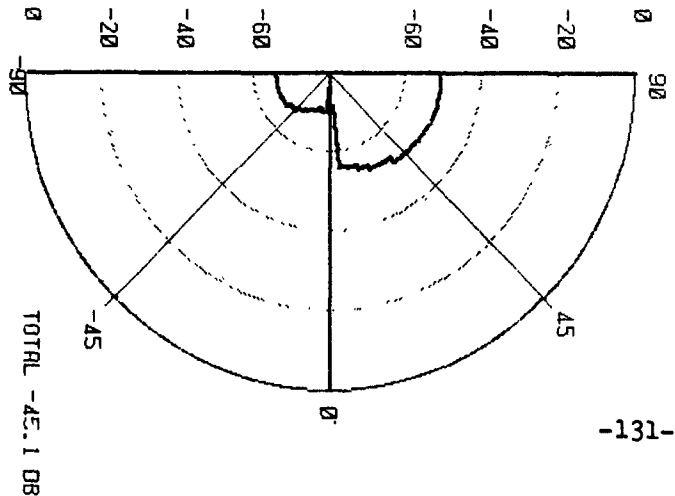
ARRIVAL ANGLE

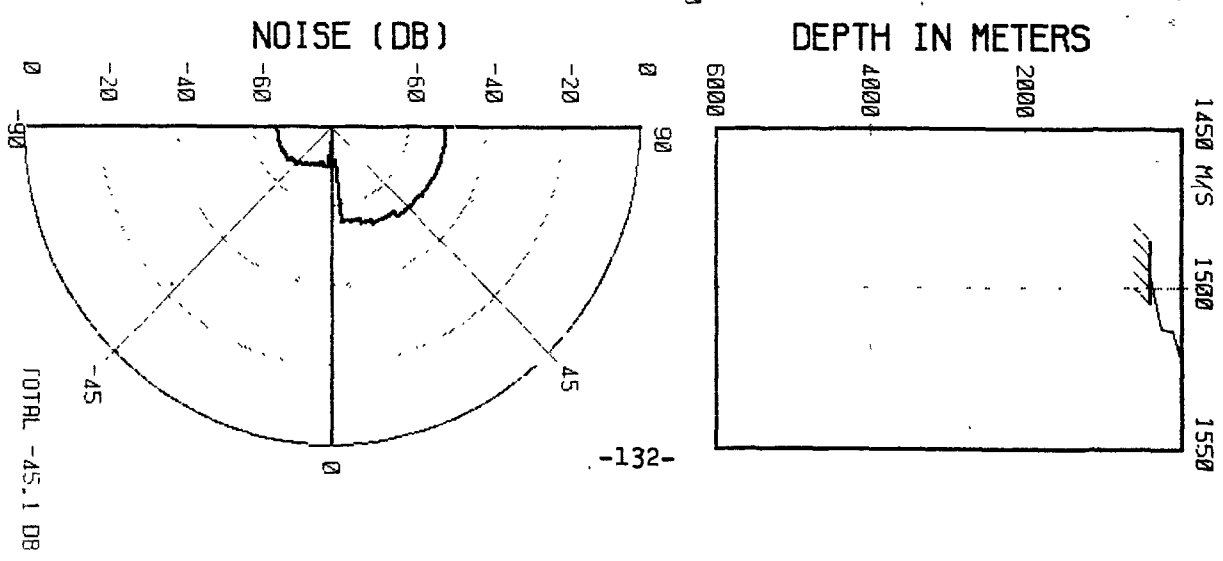
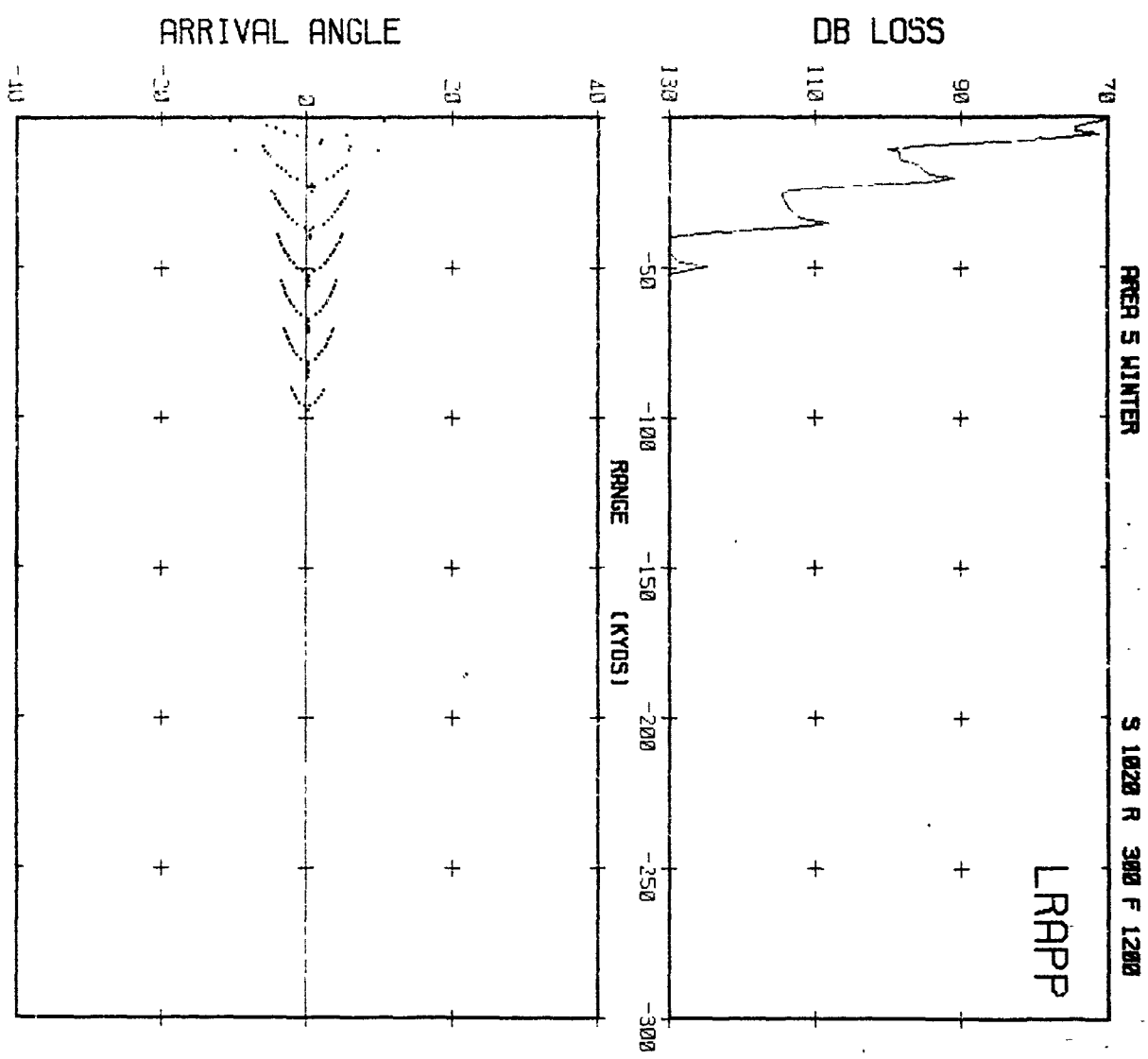


DEPTH IN METERS



NOISE (DB)



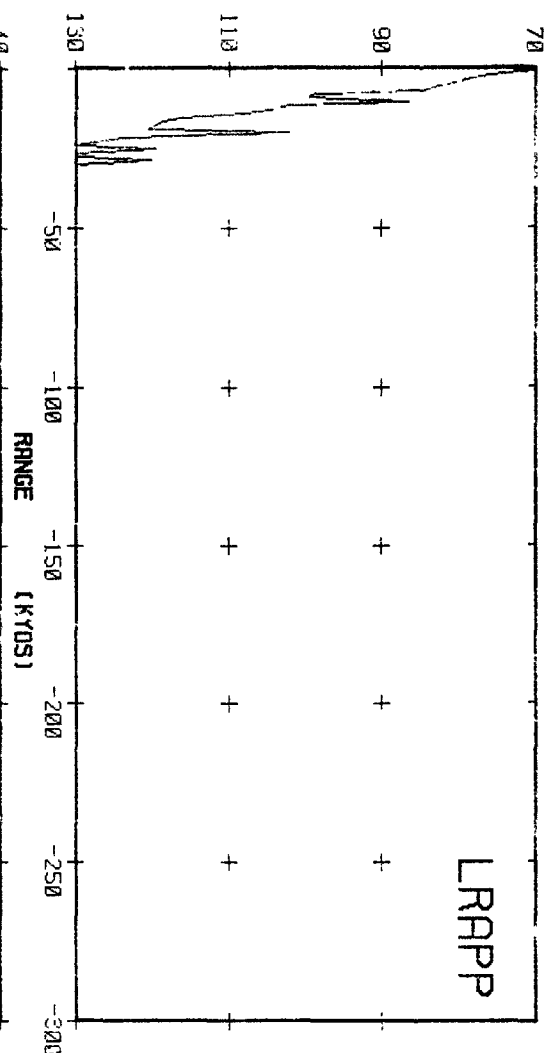


AREA 5 WINTER

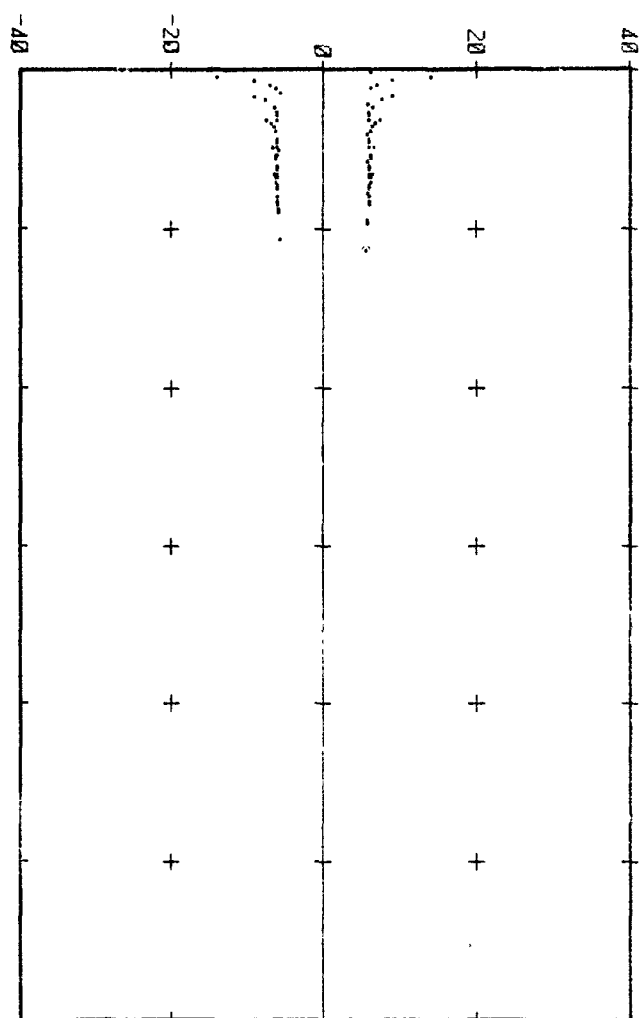
S 20 R 328 F 1200

LRAPP

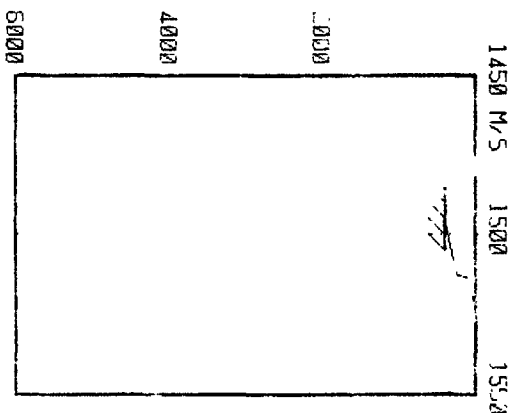
DB LOSS



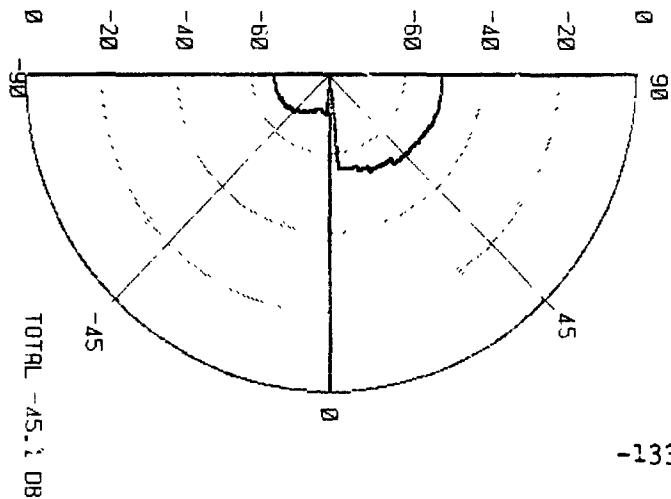
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

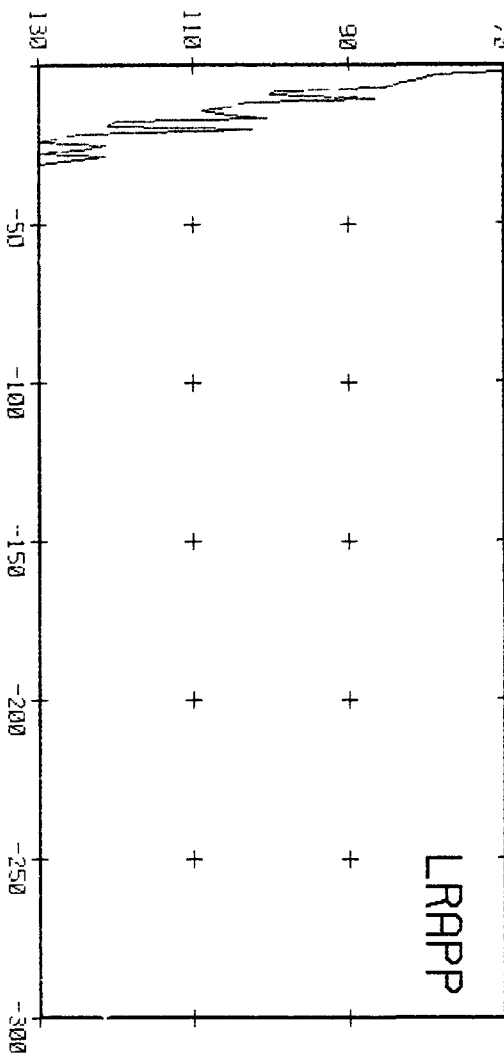


AREA 5 WINTER

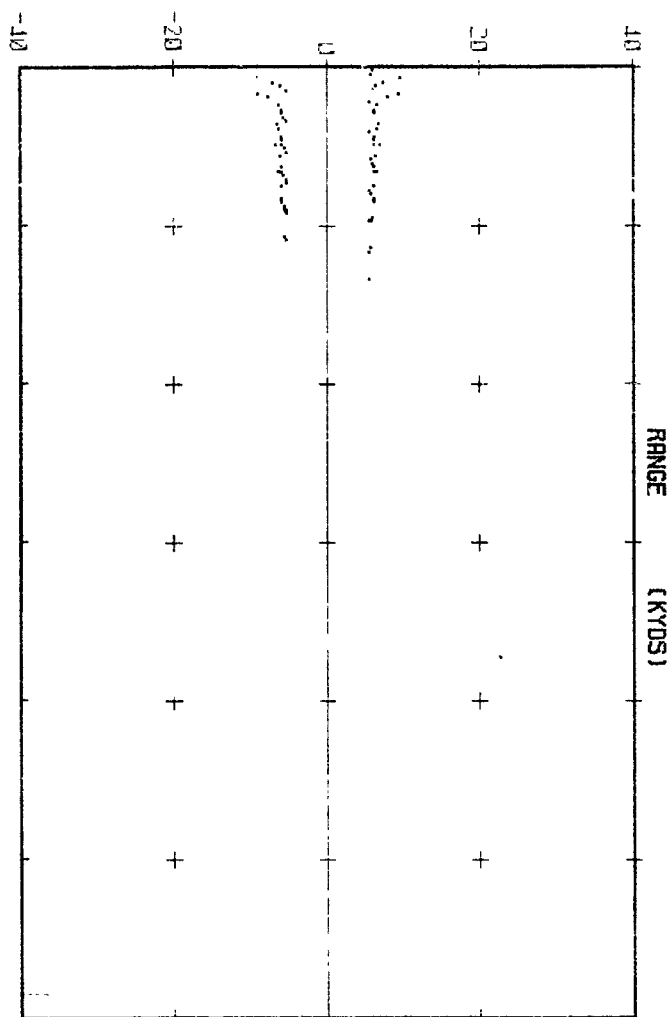
S 50 R 328 F 1200

1450 M/S 1500 1550

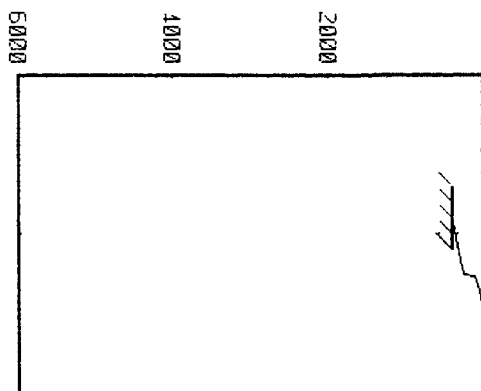
DB LOSS



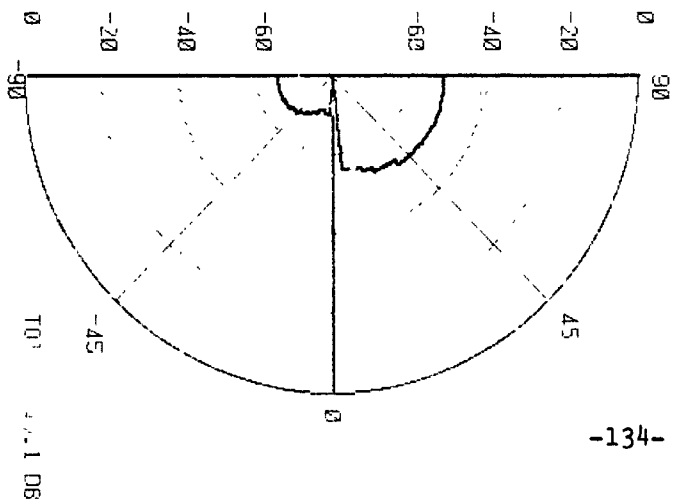
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

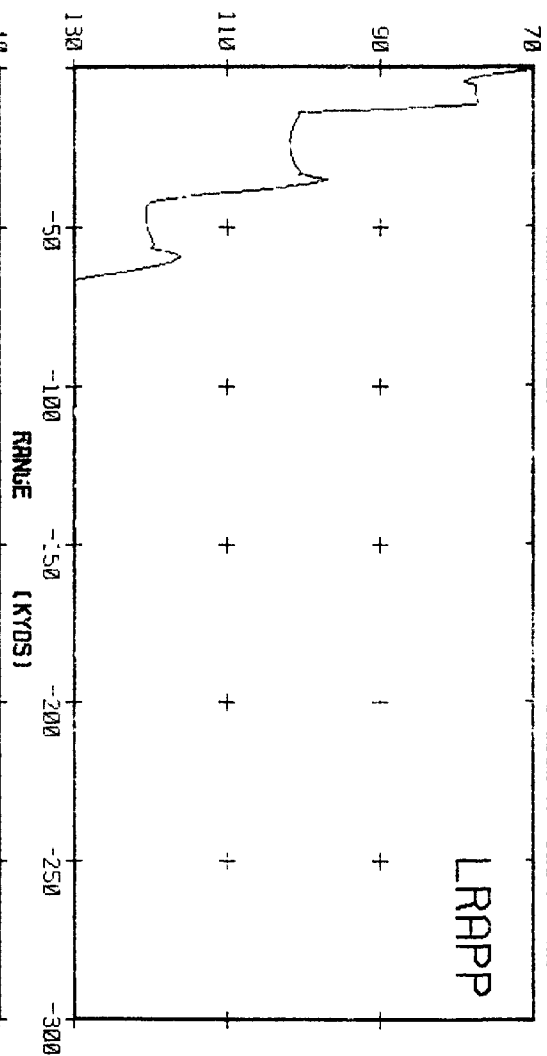


AREA 5 WINTER

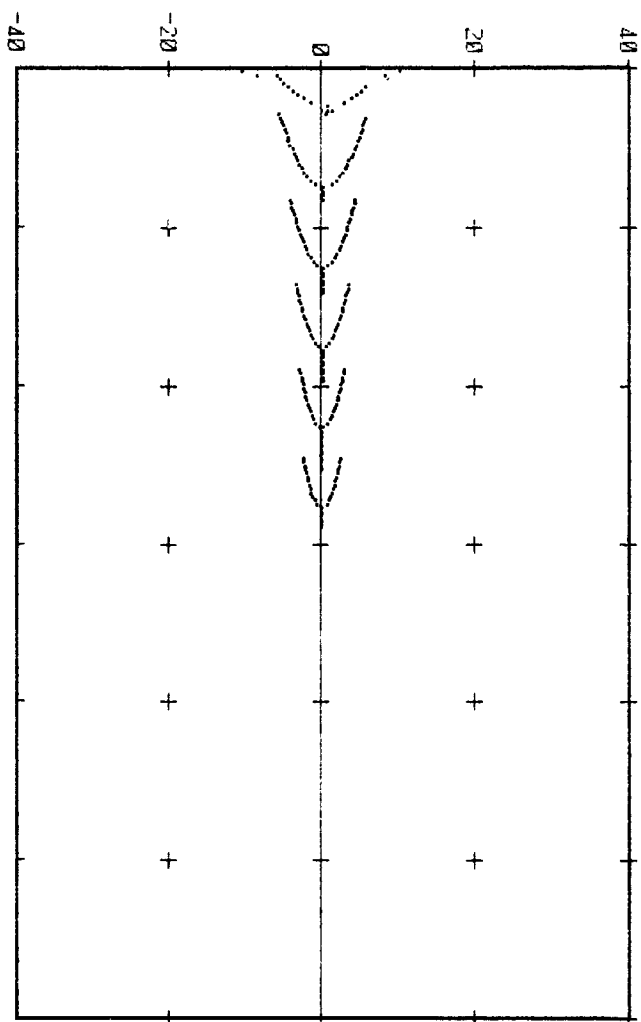
S 1020 R 328 F 1200

LRAPP

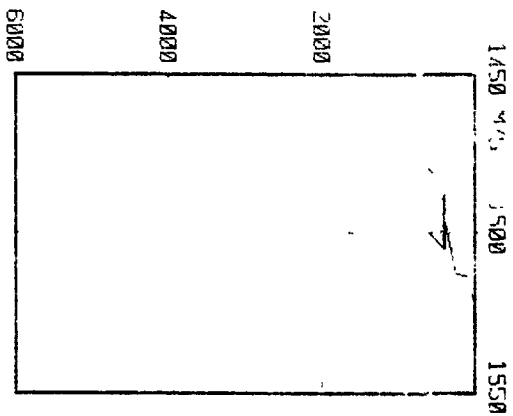
DB LOSS



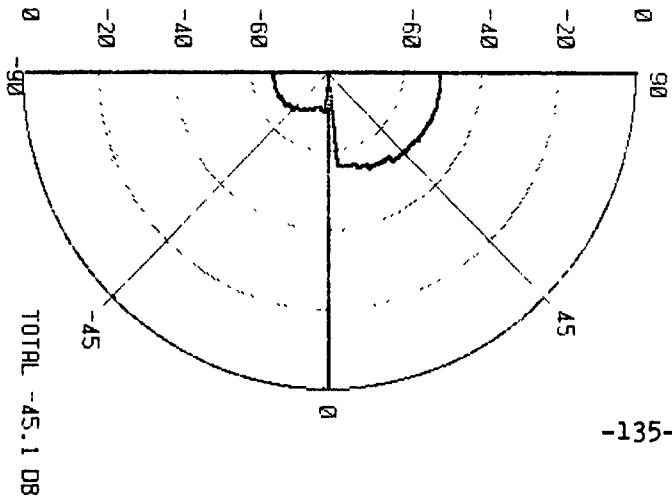
ARRIVAL ANGLE

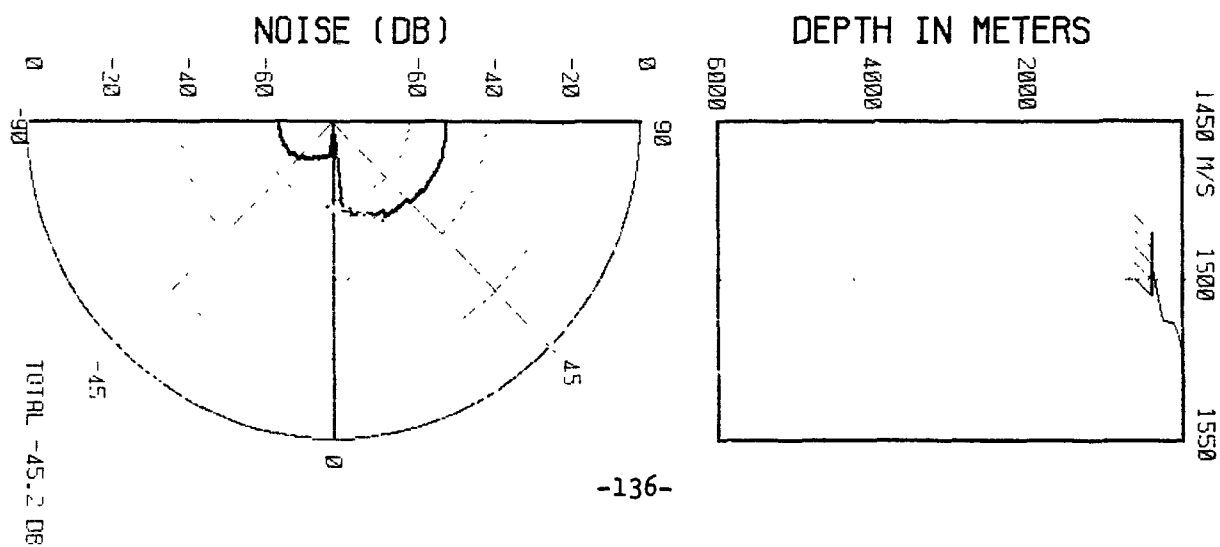
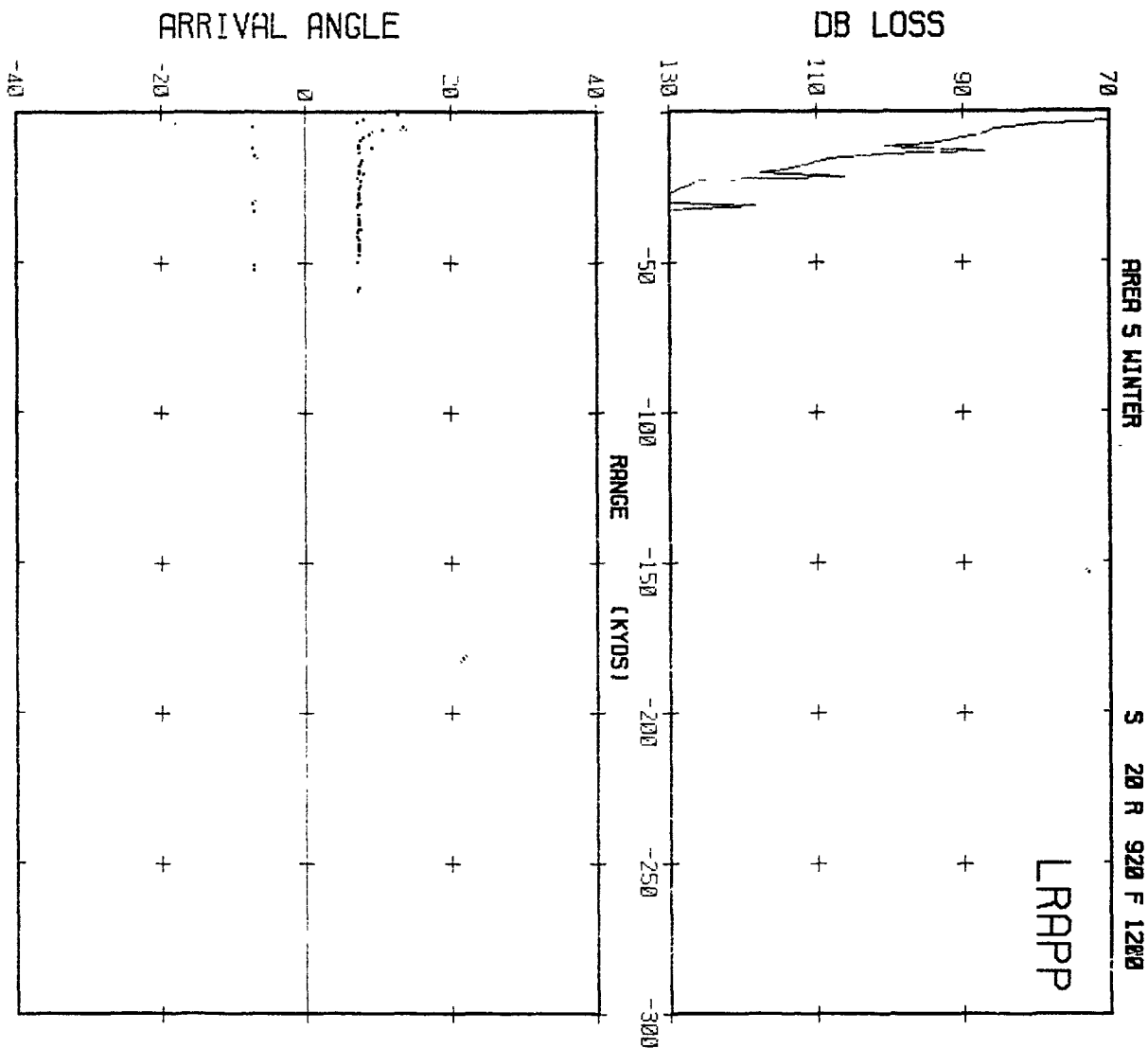


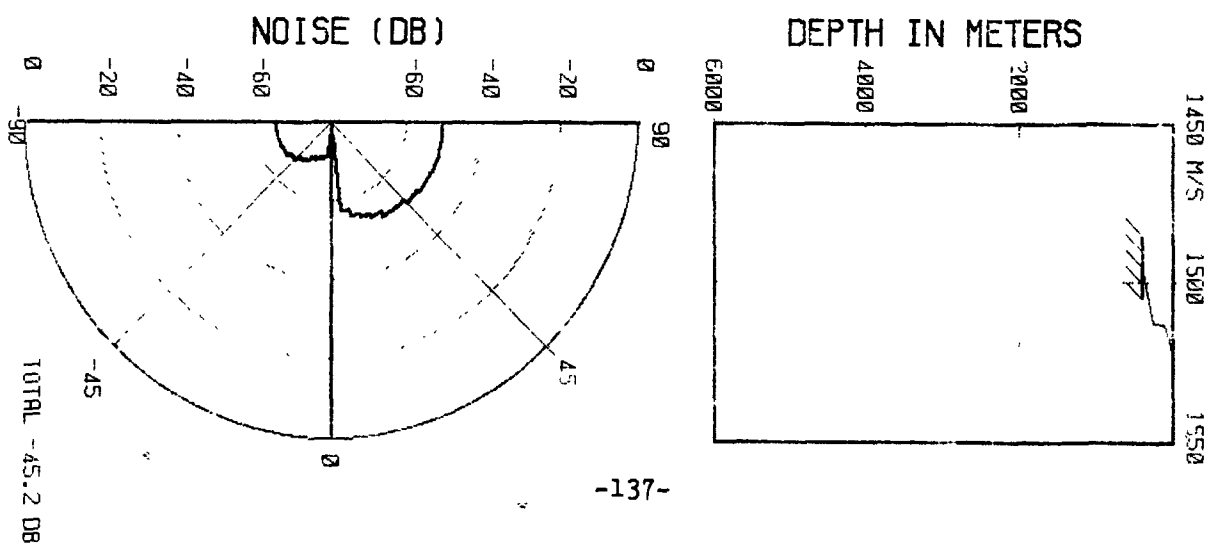
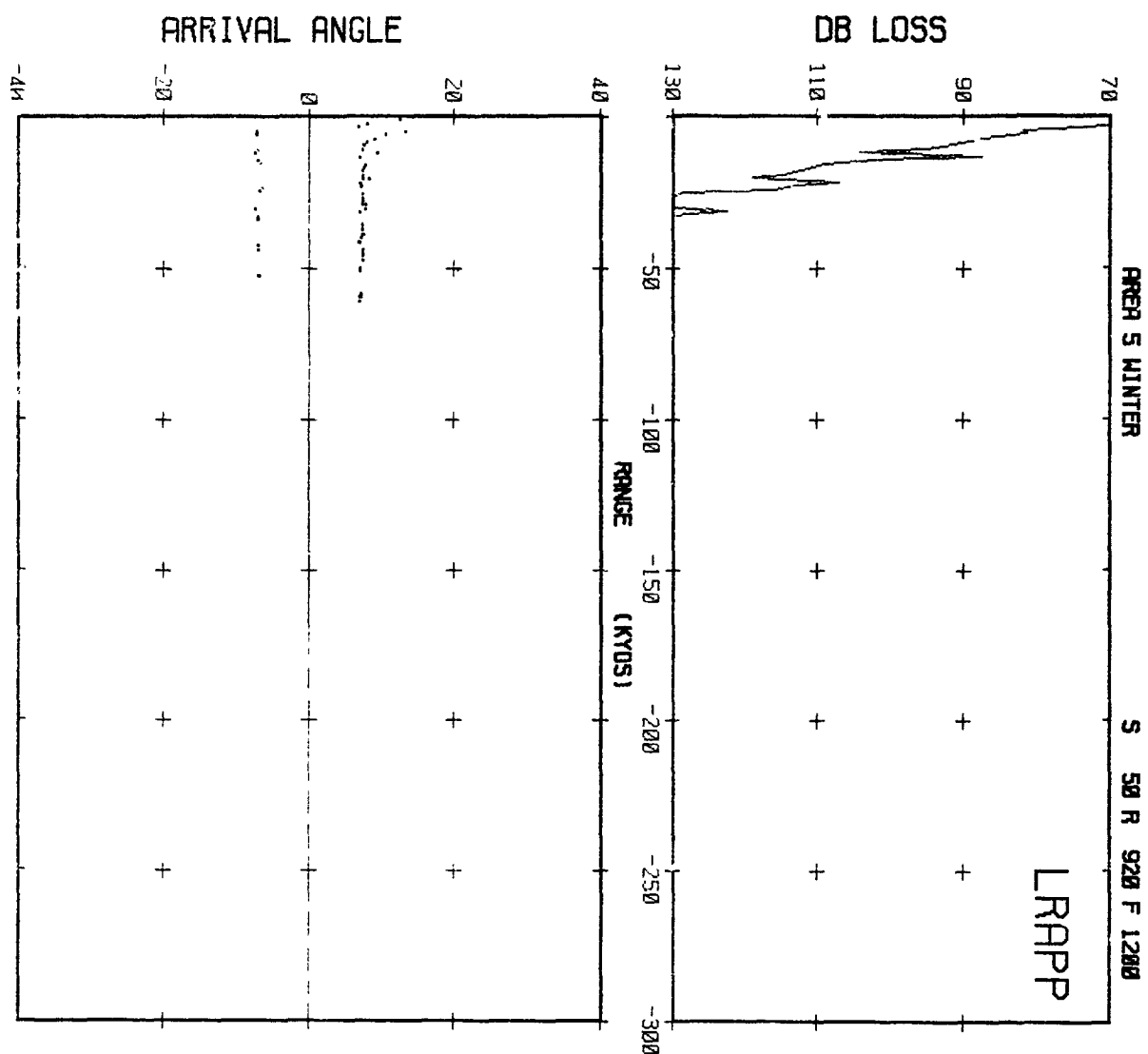
DEPTH IN METERS



NOISE (DB)







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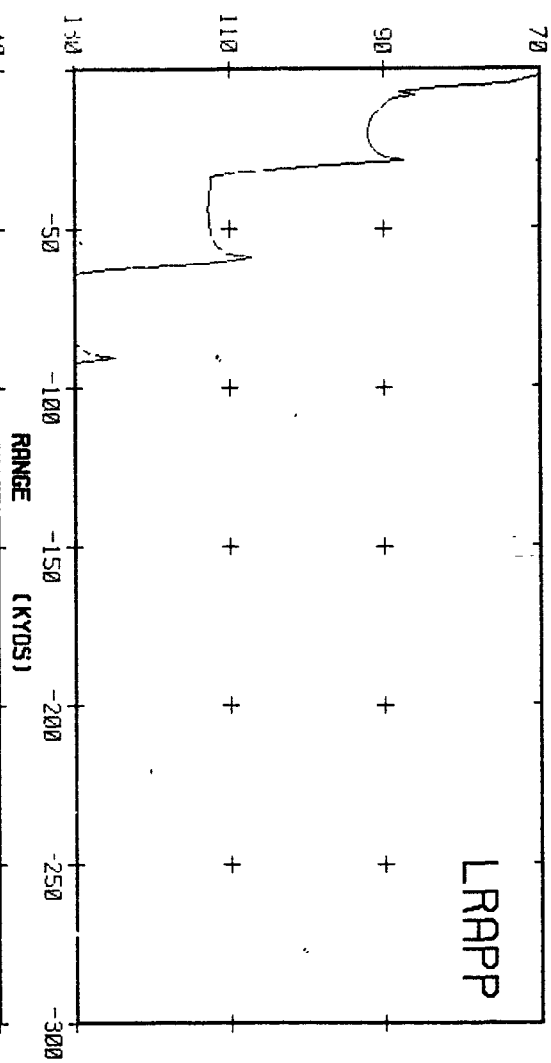
19

AREA 5 WINTER

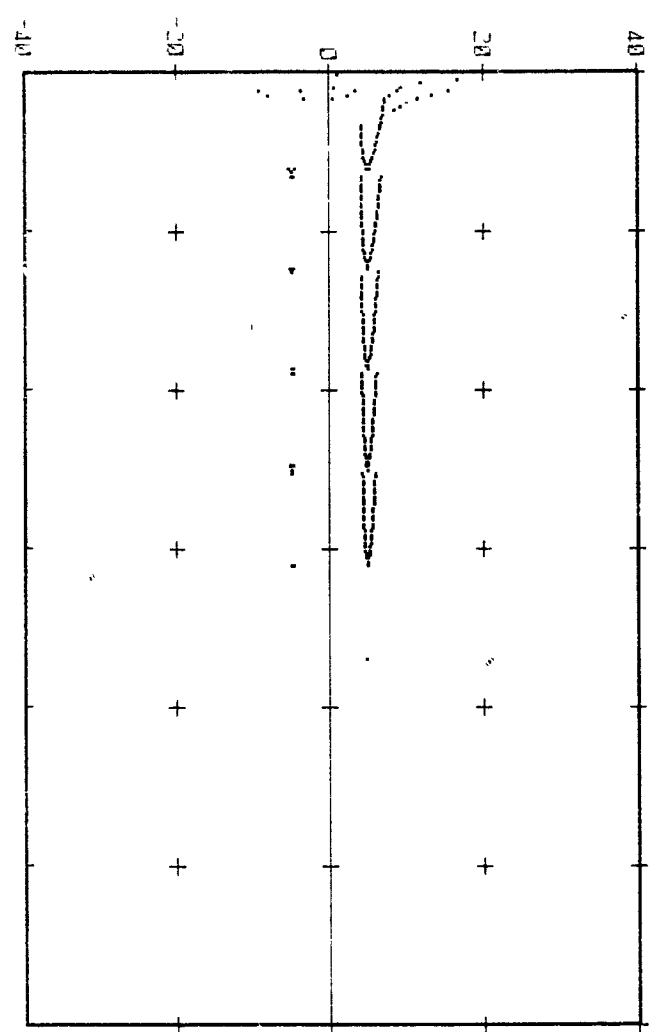
S 1020 R 920 F 1200

LRAPP

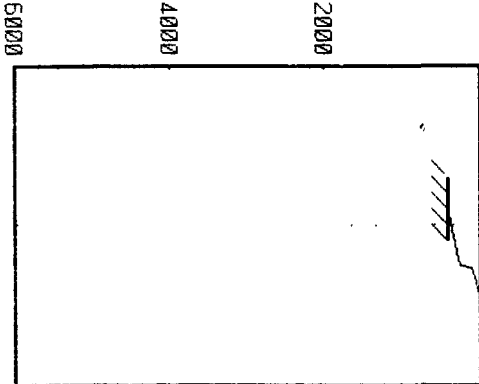
DB LOSS



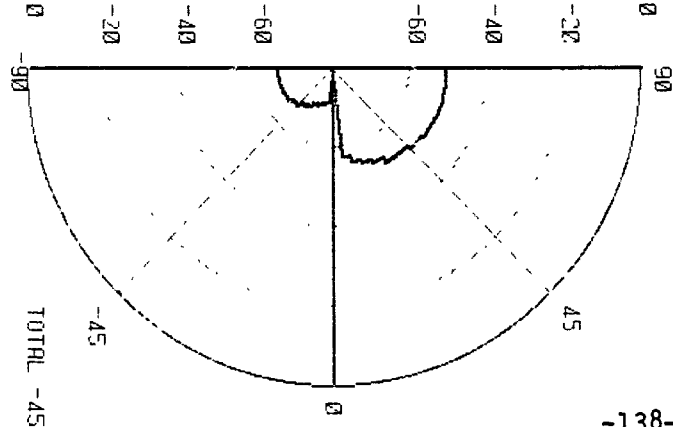
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



TOTAL -45.2 DB

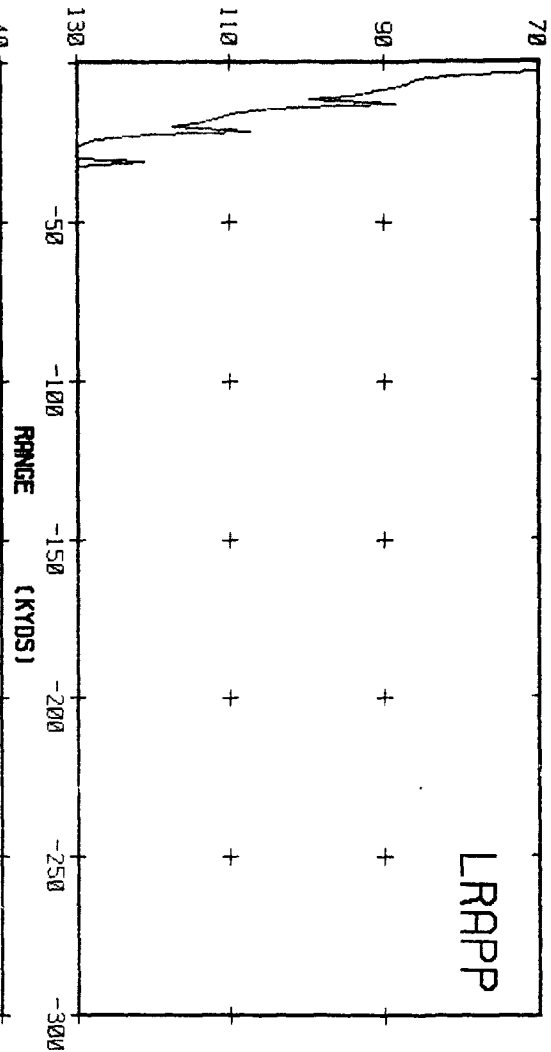
-138-

AREA 5 WINTER

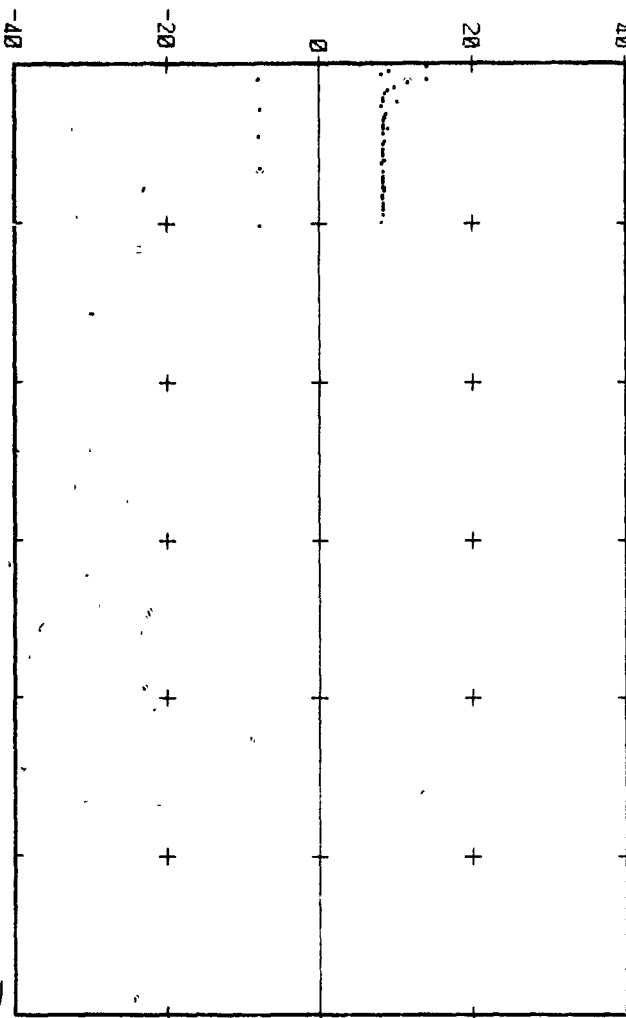
S 20 R 1000 F 1200

1450 M/S 1510 1550

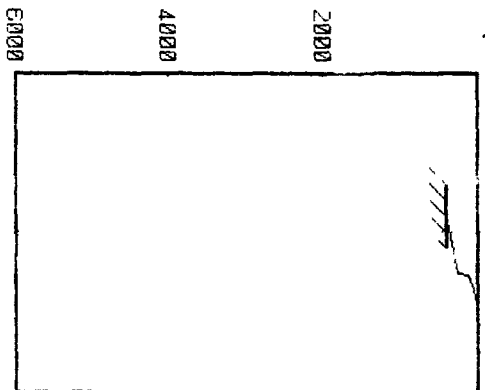
DB LOSS



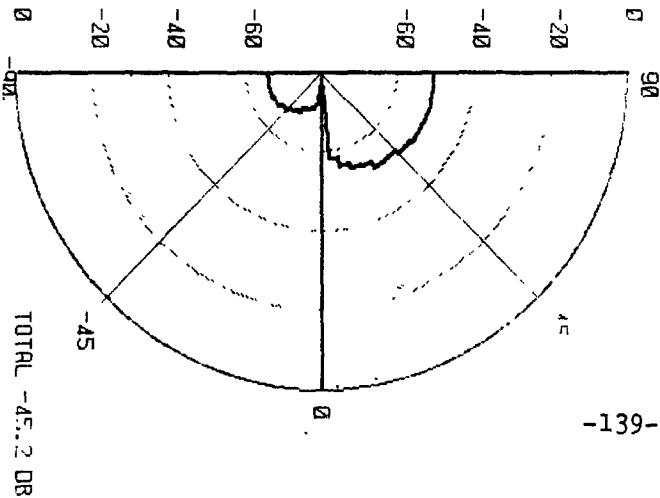
ARRIVAL ANGLE

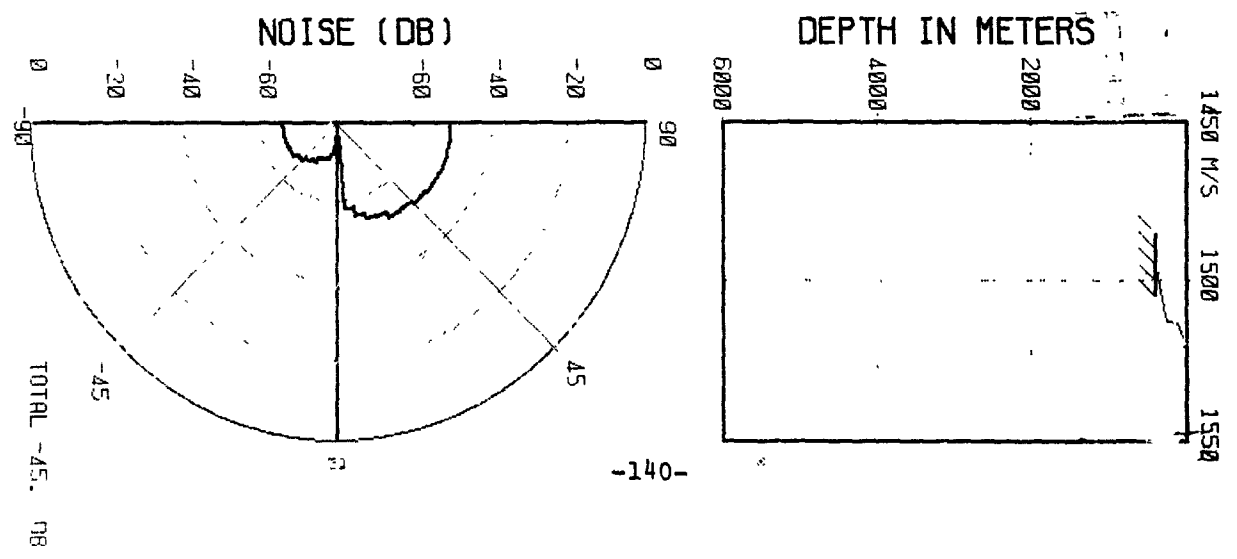
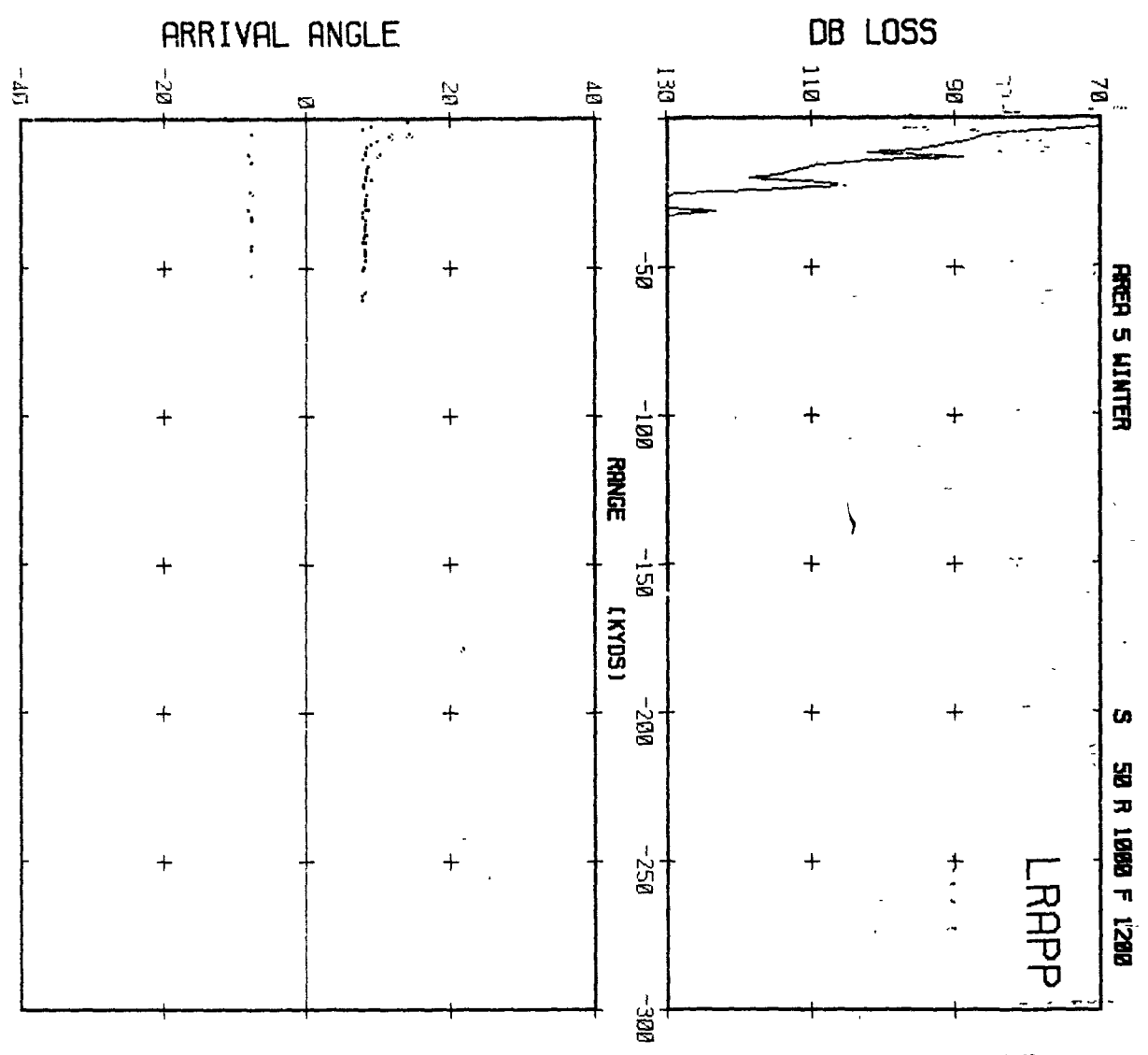


DEPTH IN METERS



NOISE (DB)



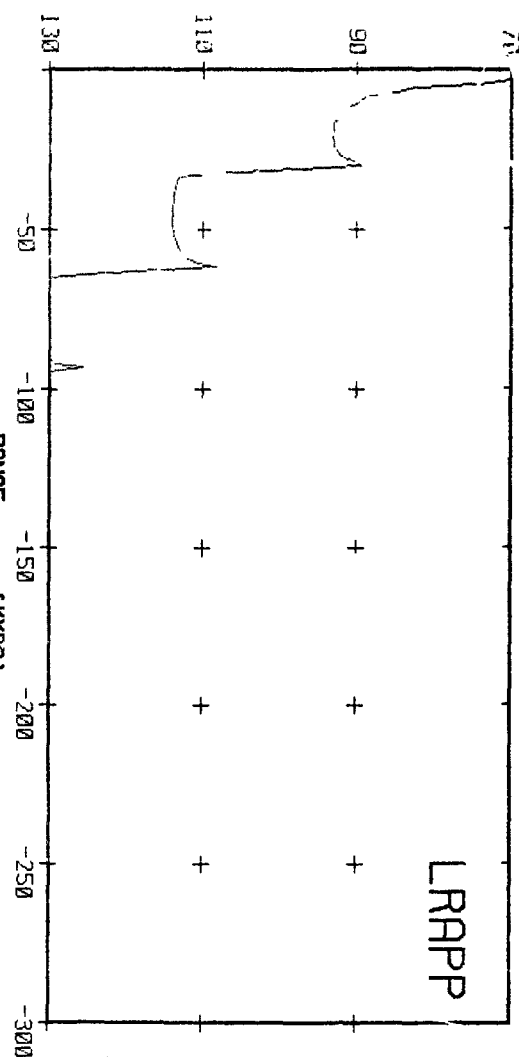


AREA 5 WINTER

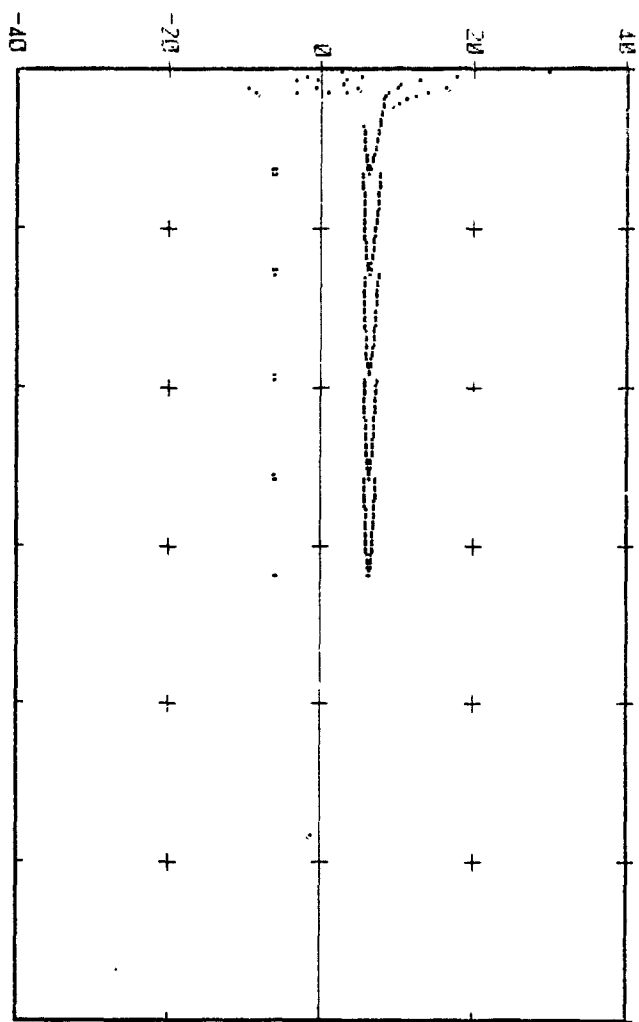
S 1020 R 1000 F 1200

1450 M/S 1500 1550

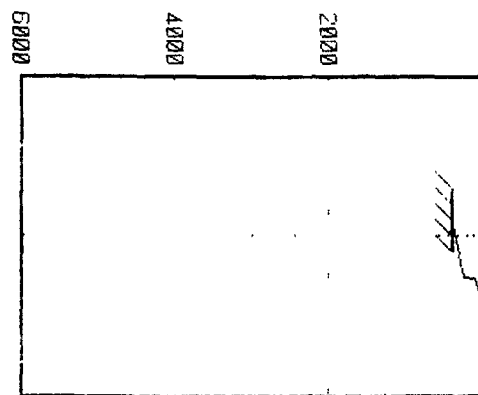
DB LOSS



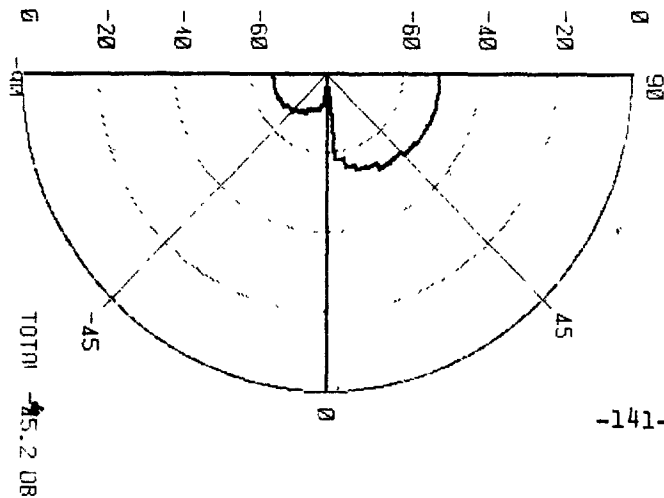
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



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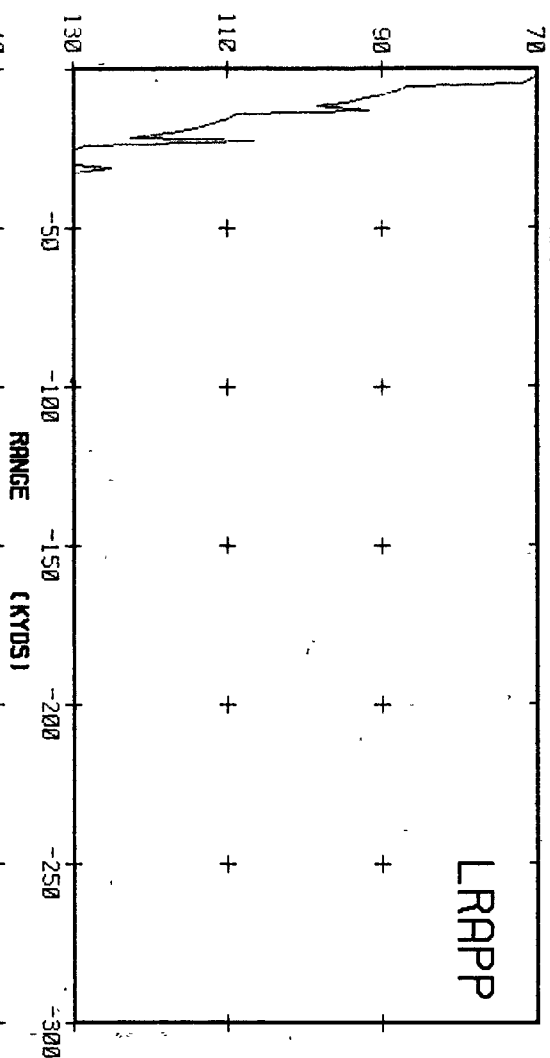
11

11

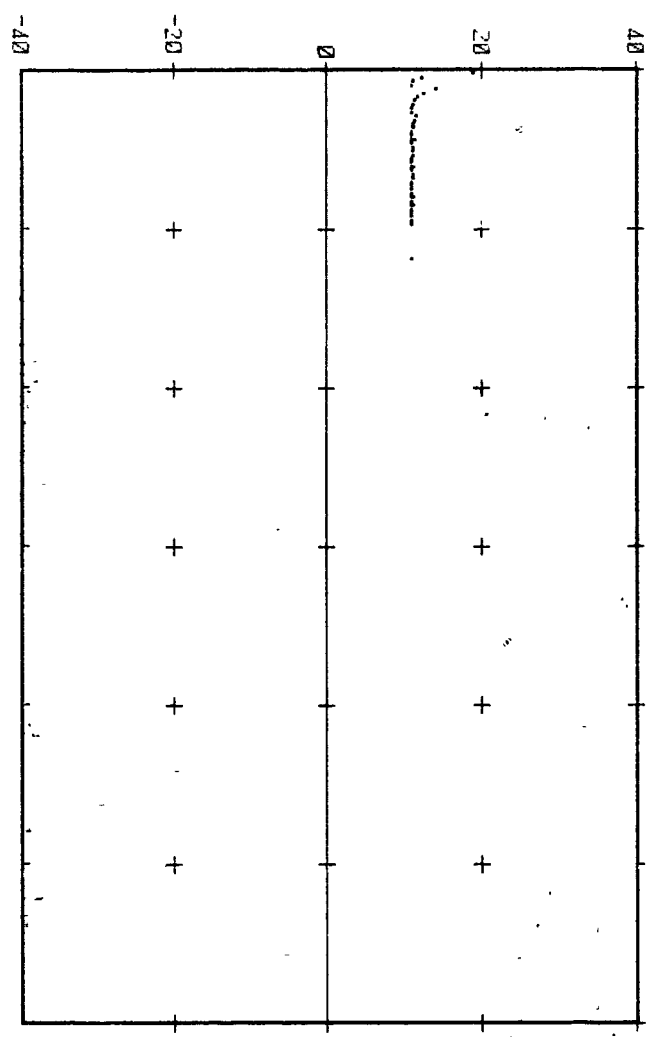
PRER S WINTER S 20 R 1312 F 1200

1450 M/S 1500 1550

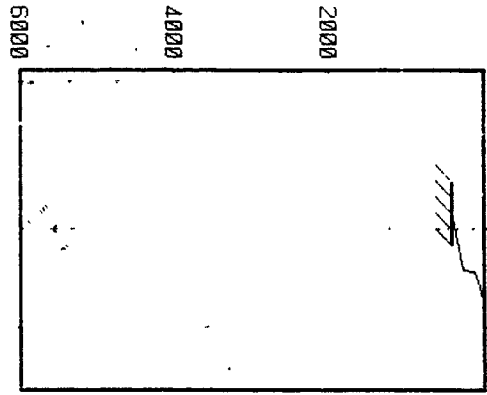
DB LOSS



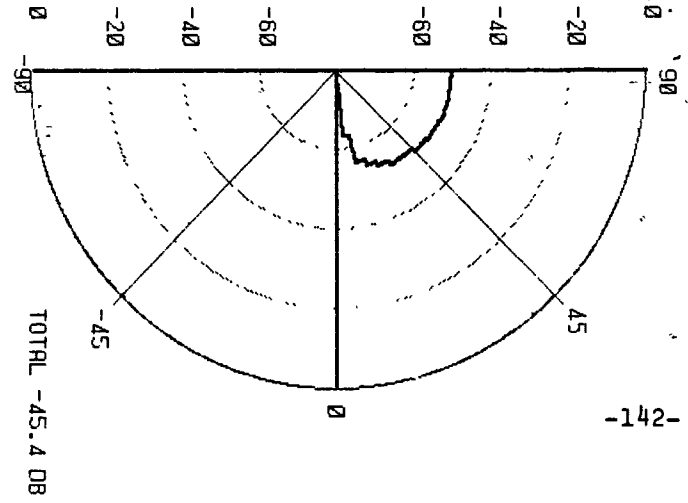
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



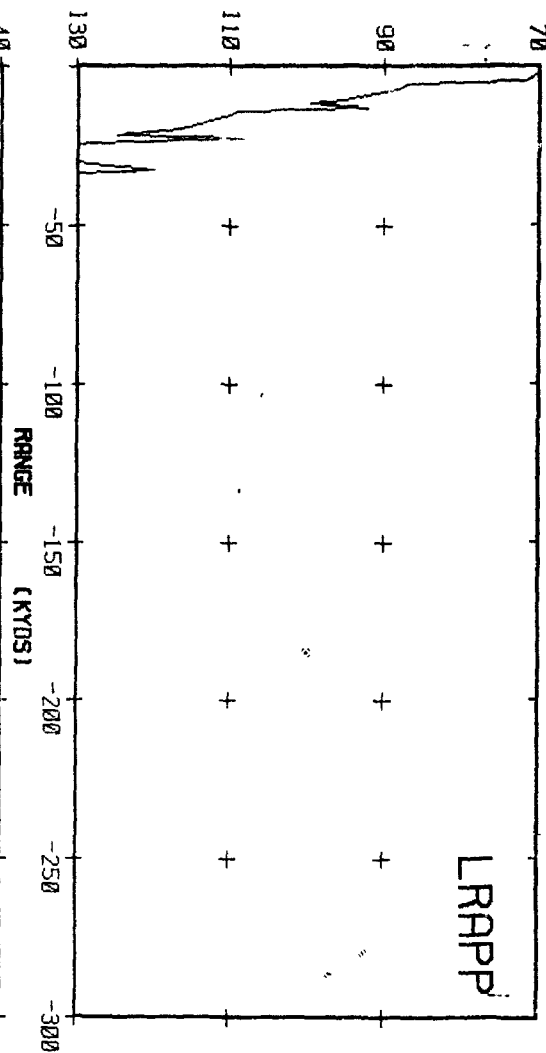
-142-

AREA 5 WINTER

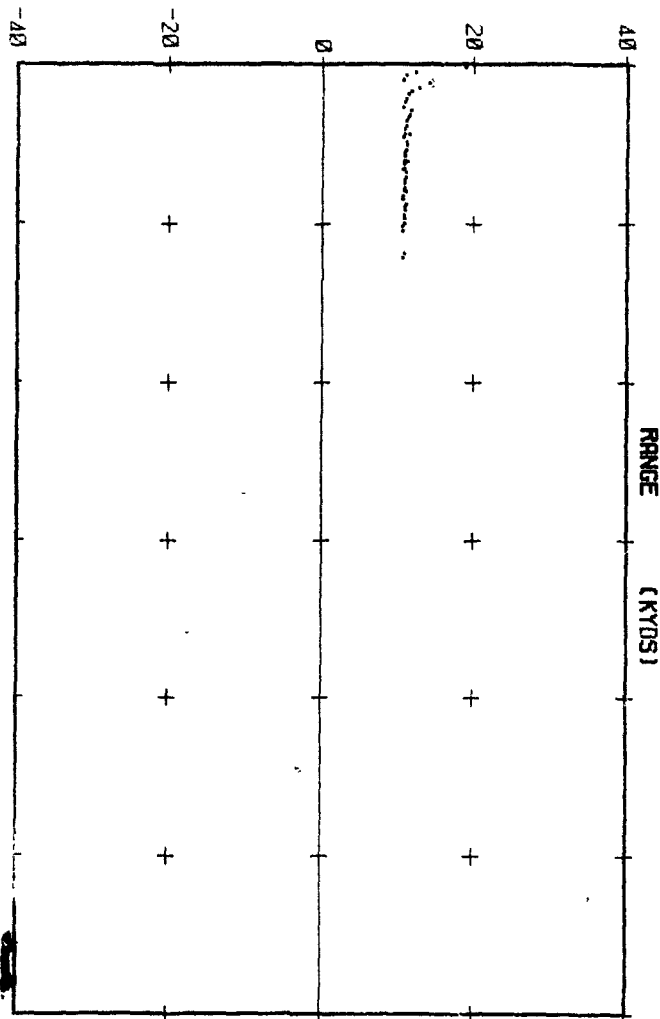
S 50 R 1312 F 1200

1450 M/S 1500 1550

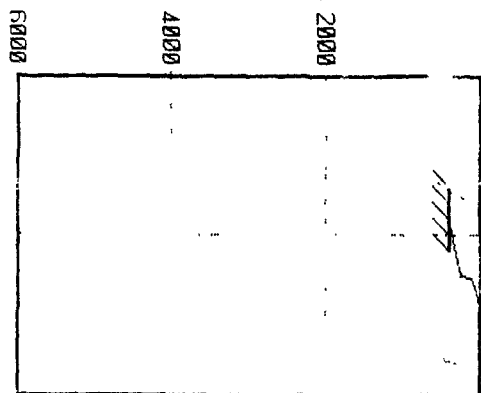
DB LOSS



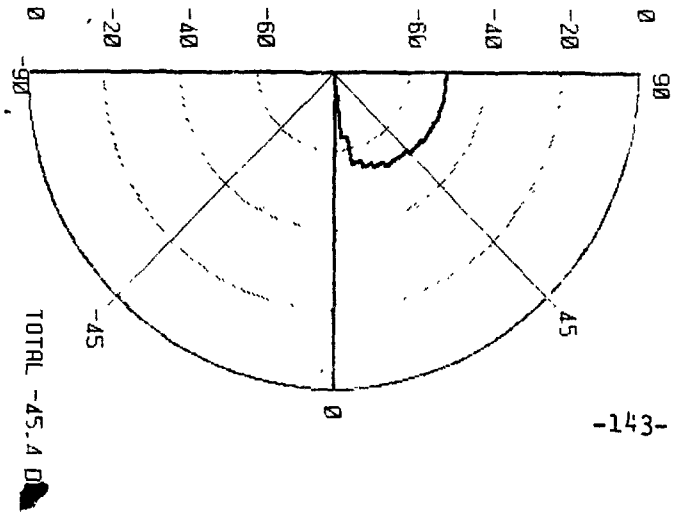
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



-143-

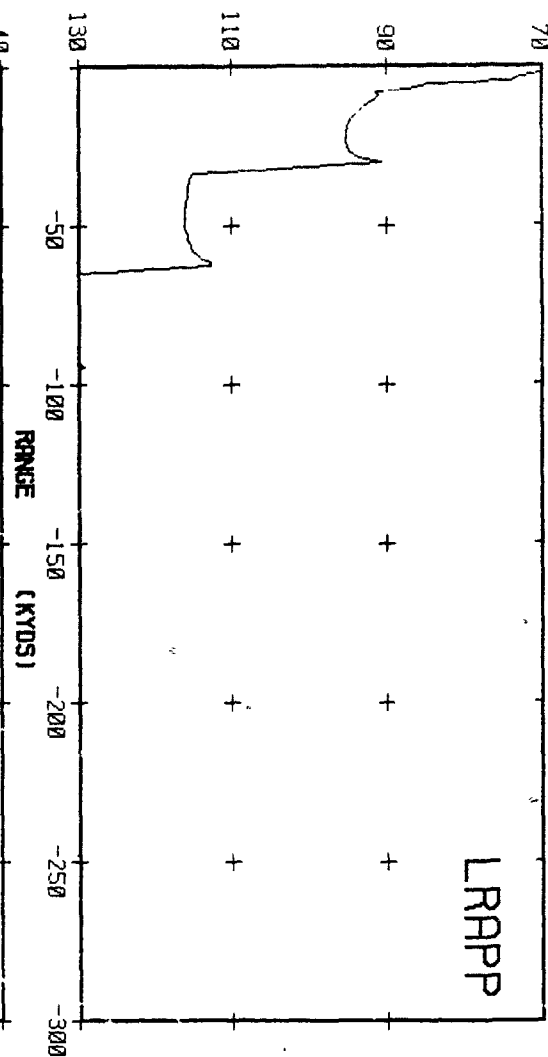
AREA 5 WINTER

S 1020 R 1312 F 1200

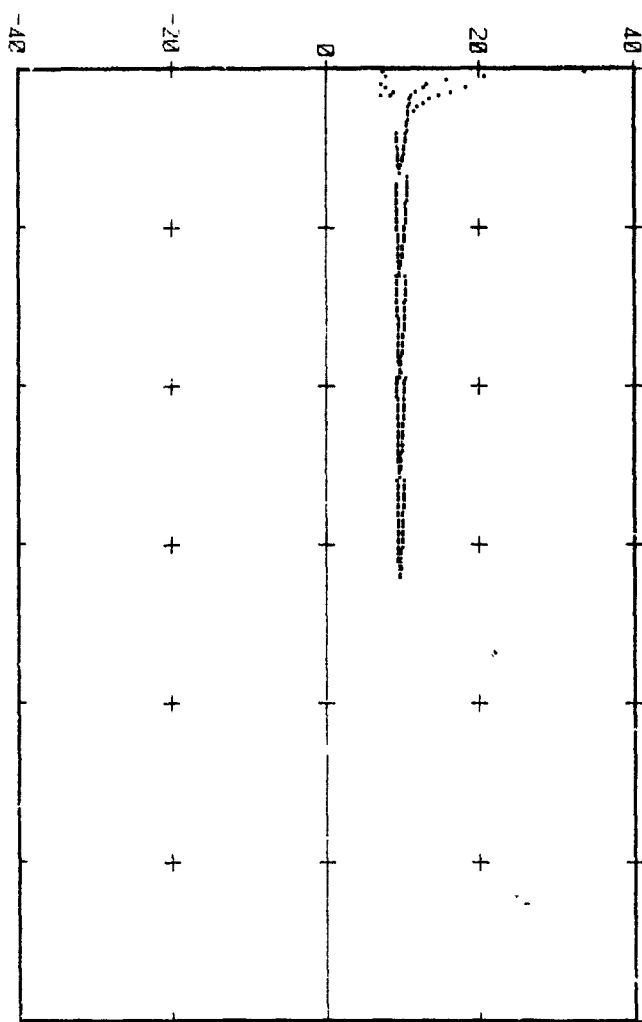
1450 M/S 1500 1550

LRAPP

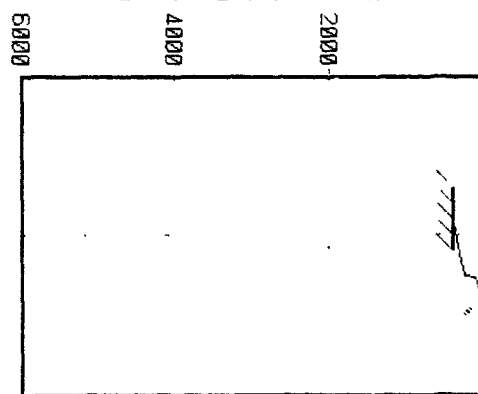
DB LOSS



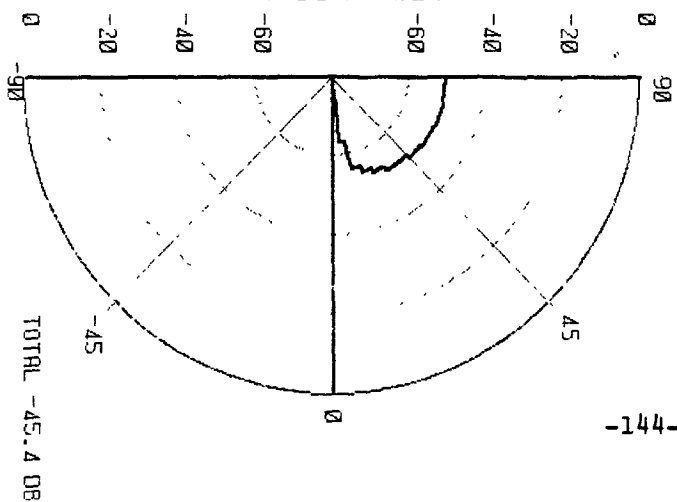
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



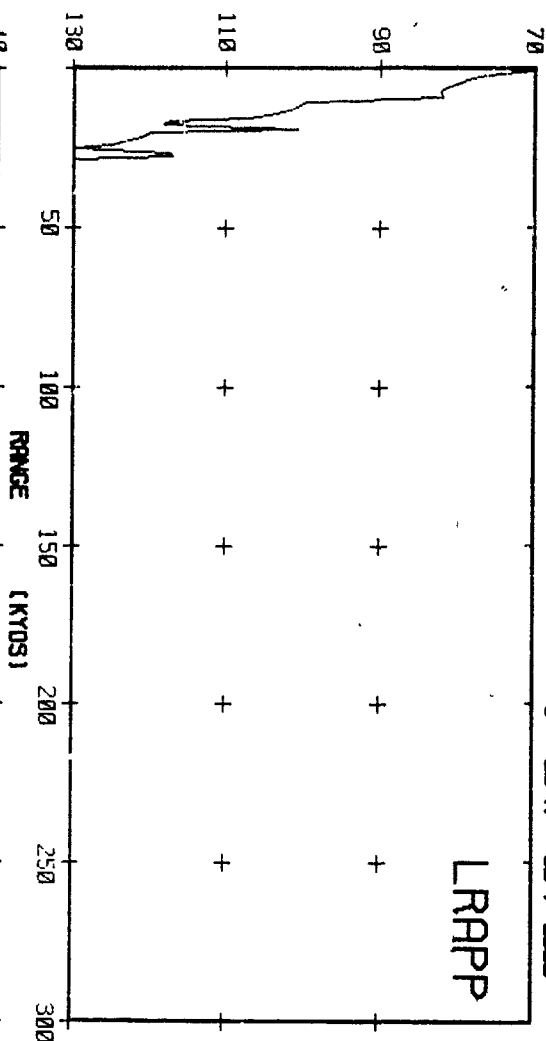
-144-

AREA 5 WINTER

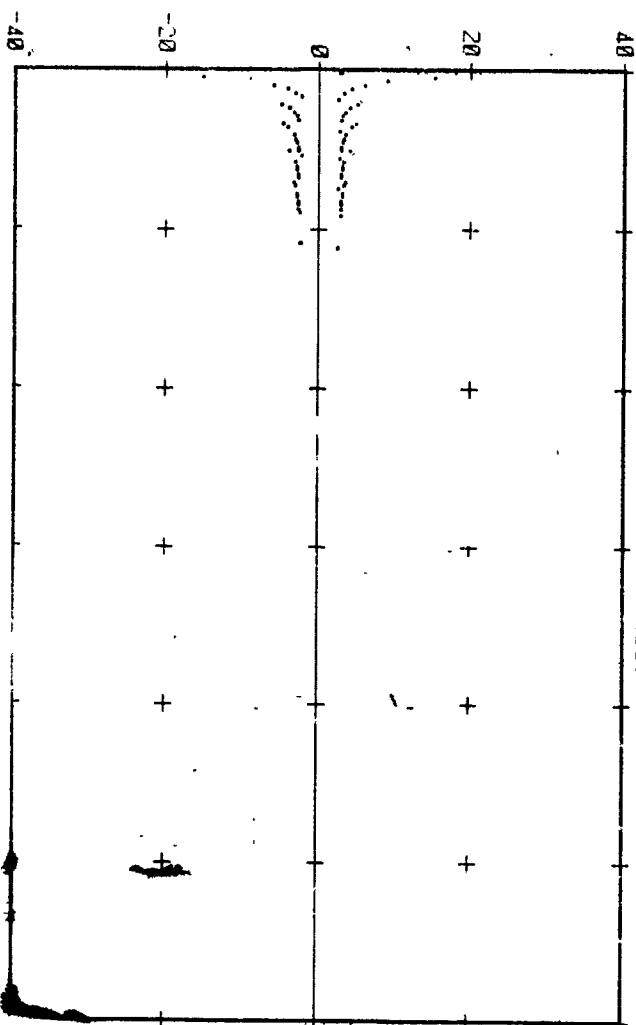
S 20 R 60 F 2000

LRAPP

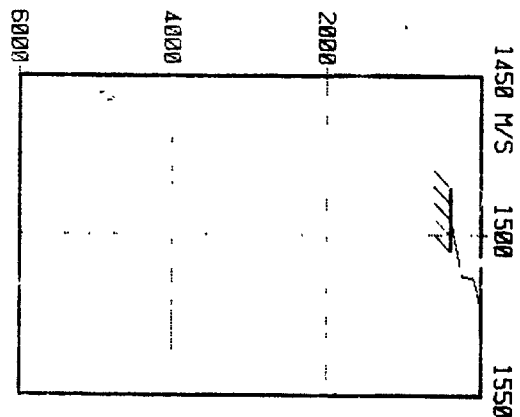
DB LOSS



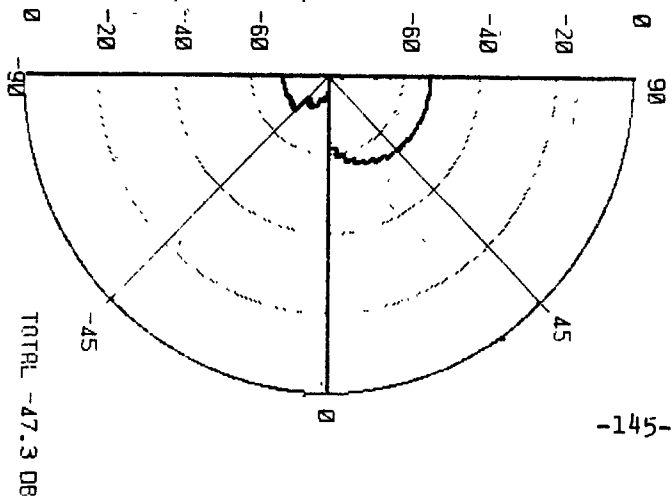
ARRIVAL ANGLE

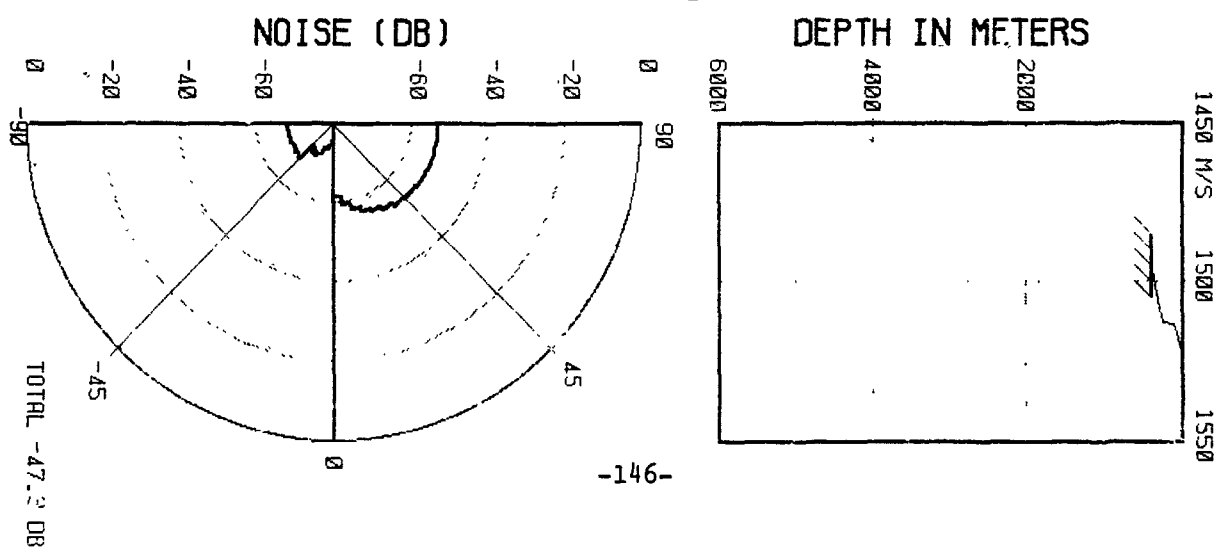
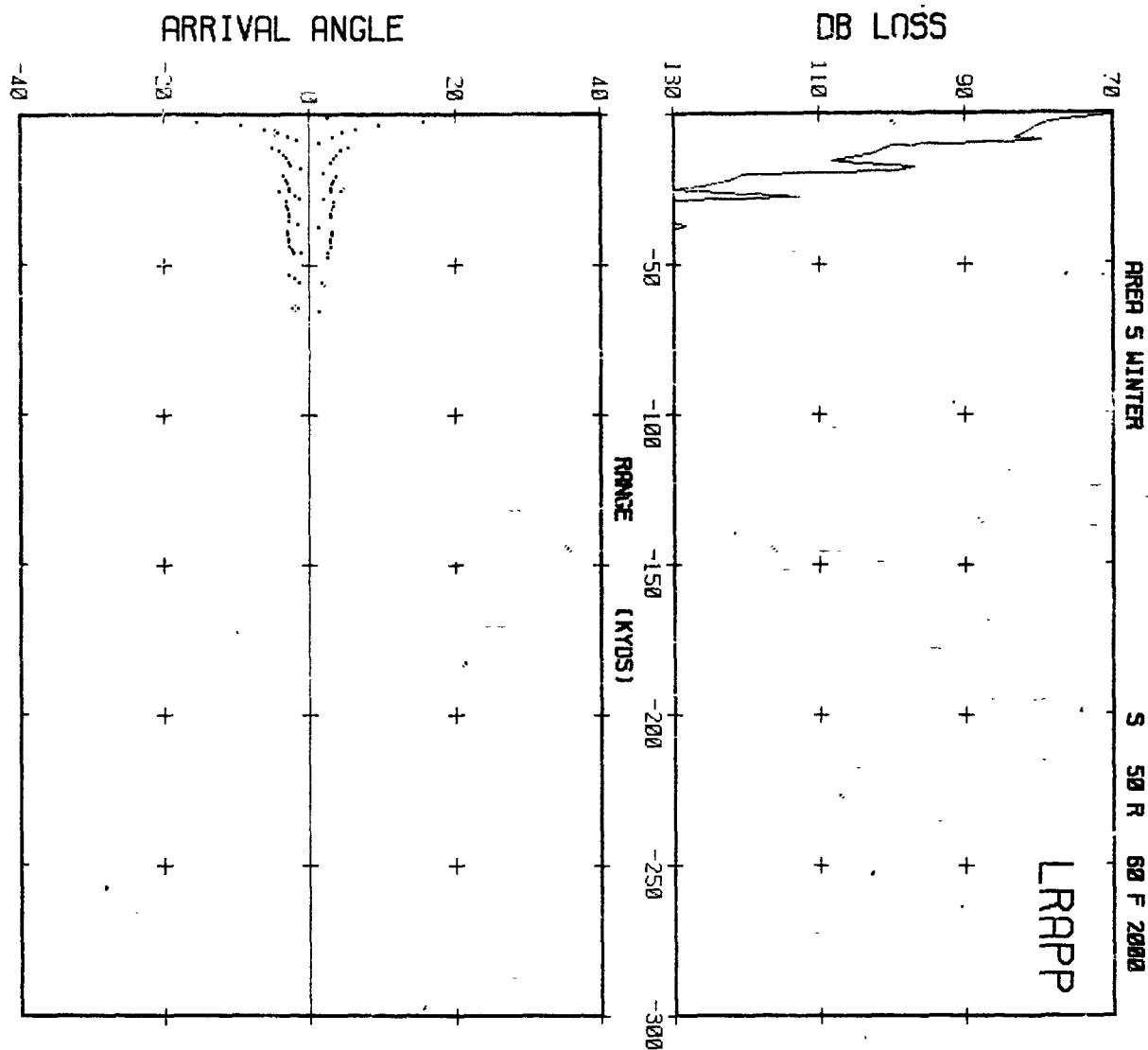


DEPTH IN METERS



NOISE (DB)



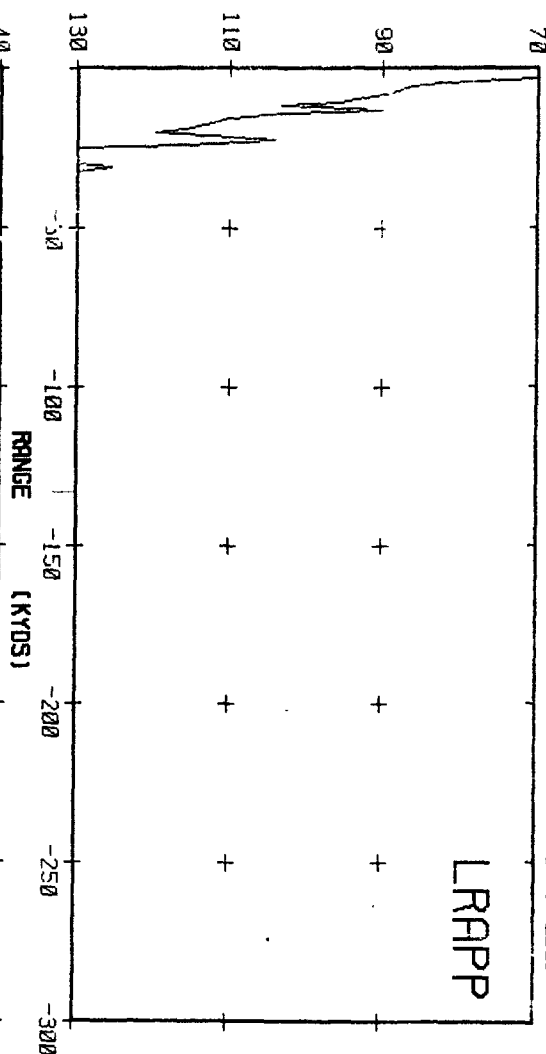


AREA 5 WINTER

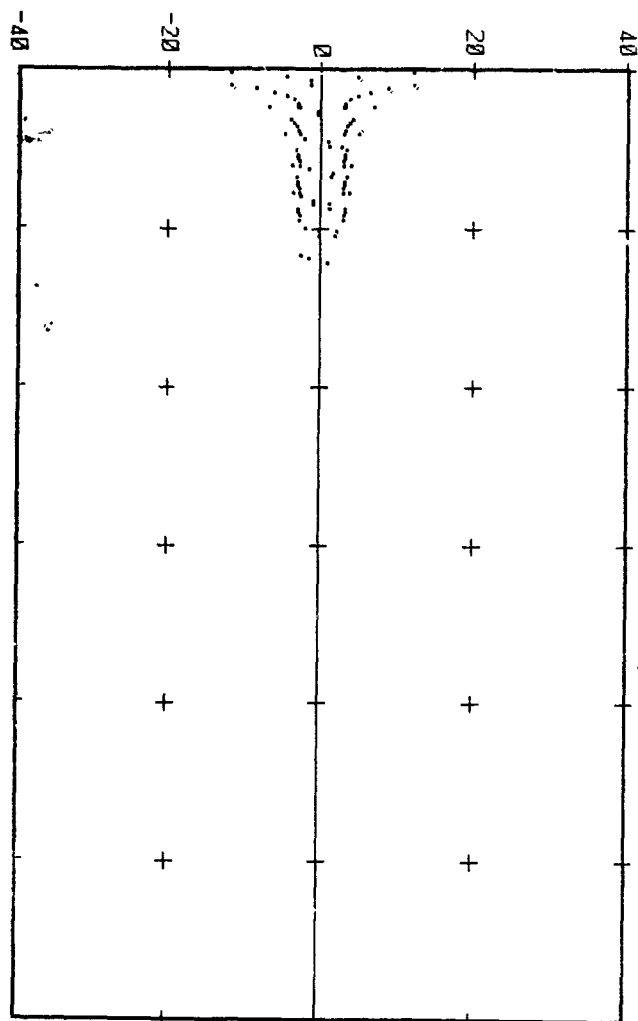
S 1020 R 60 F 200P

LRAPP

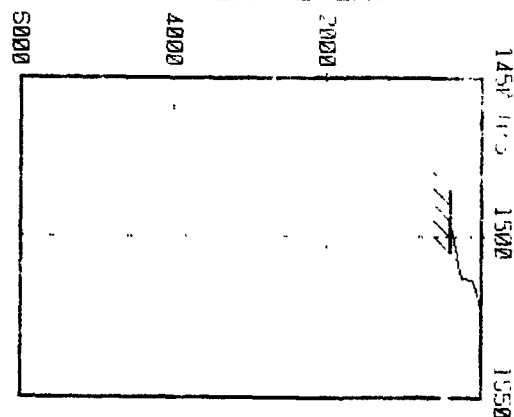
DB LOSS



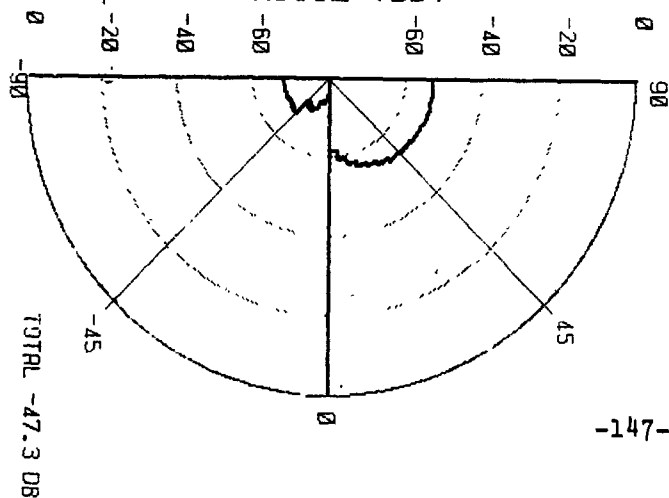
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



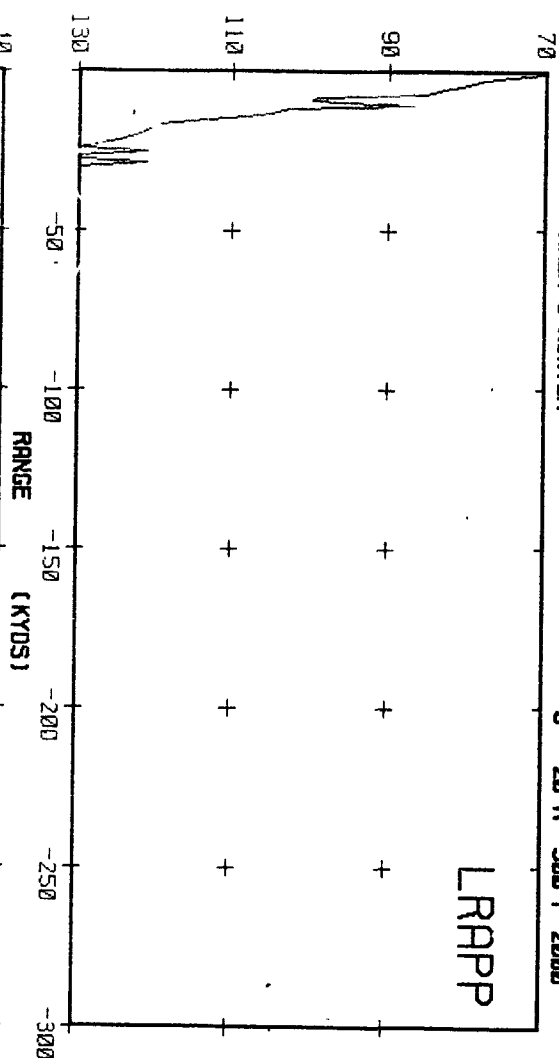
-147-

RRR S WINTER

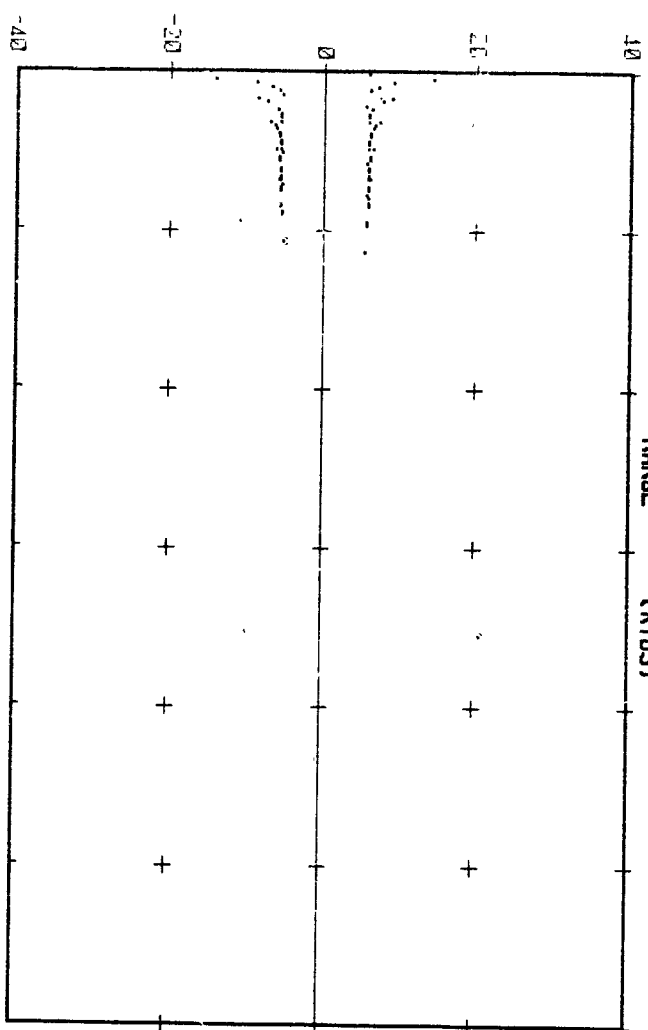
S 20 R 300 F 2000

LRAPP

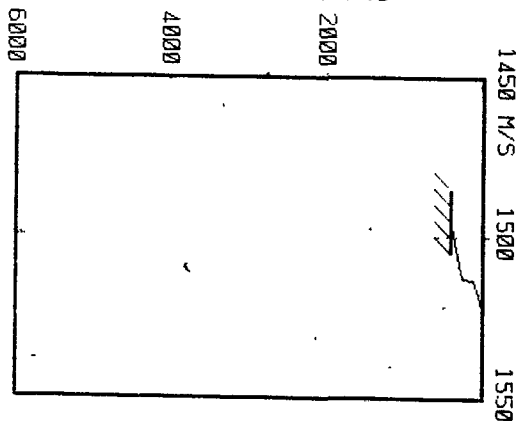
DB LOSS



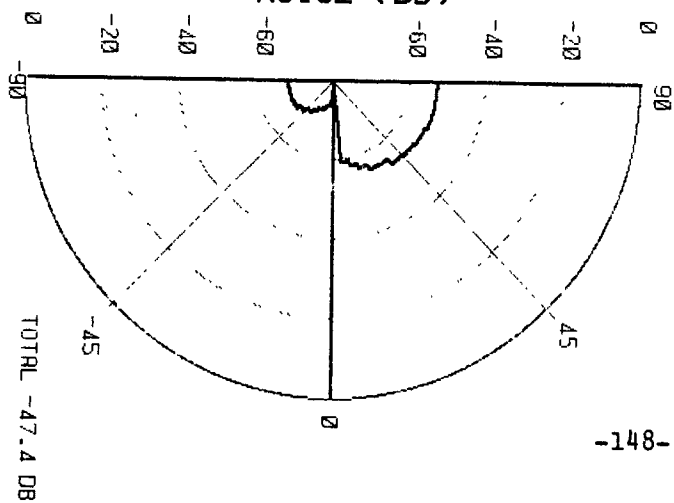
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

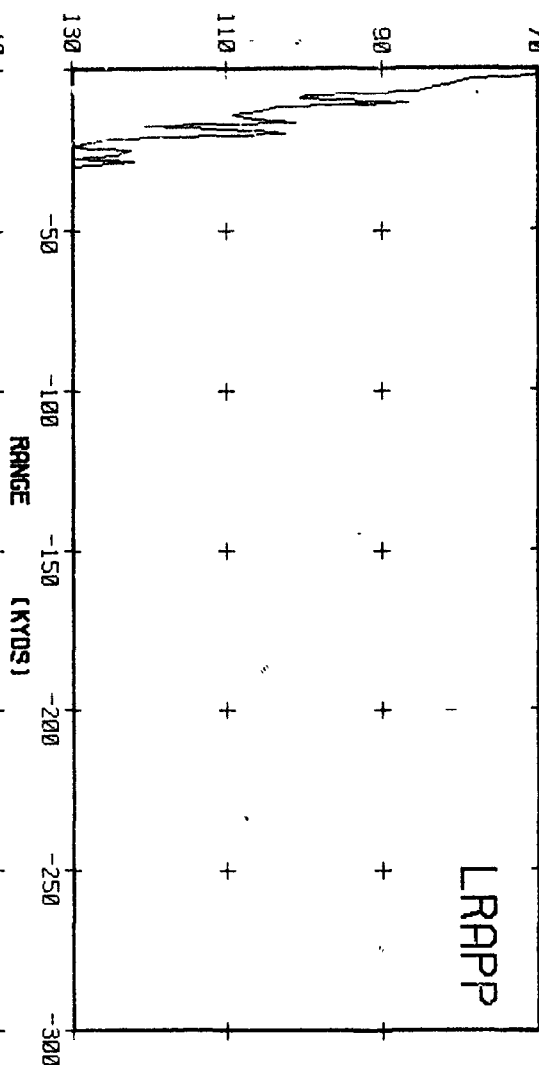


RRR 5 WINTER

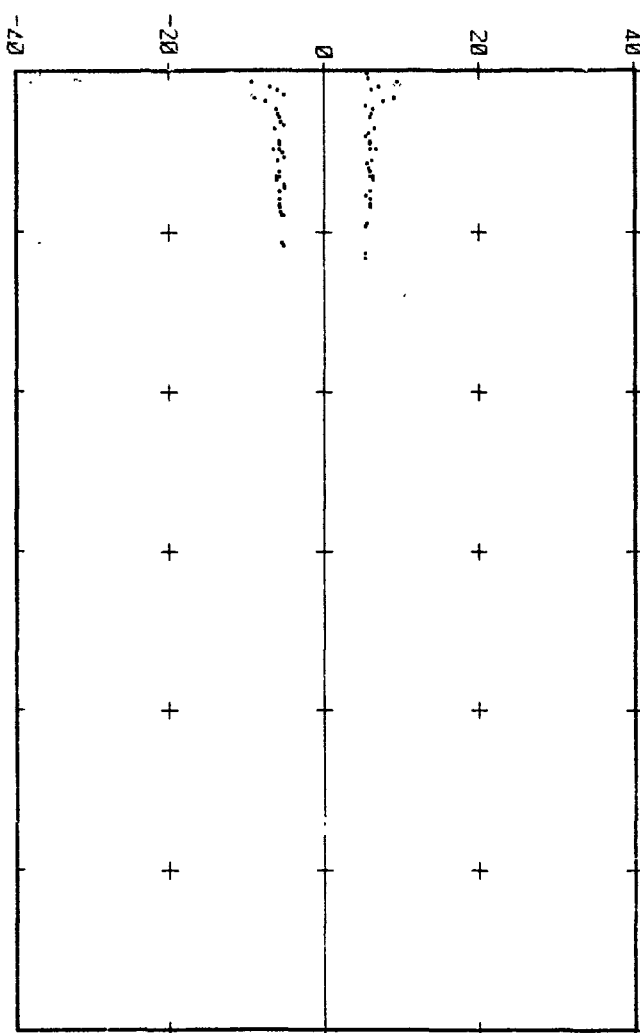
S 50 R 300 F 2000

1450 M/S 1500 1550

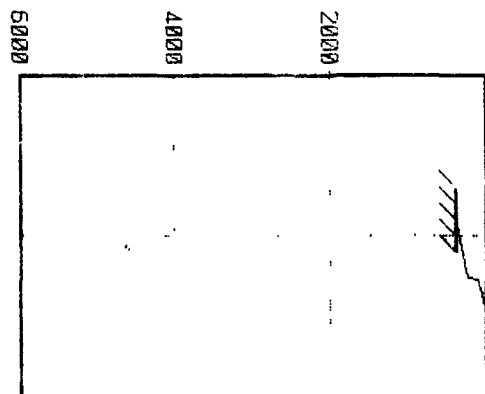
DB LOSS



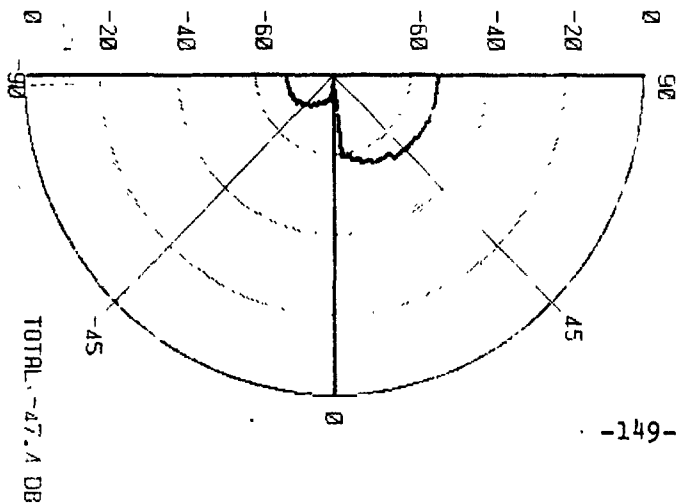
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

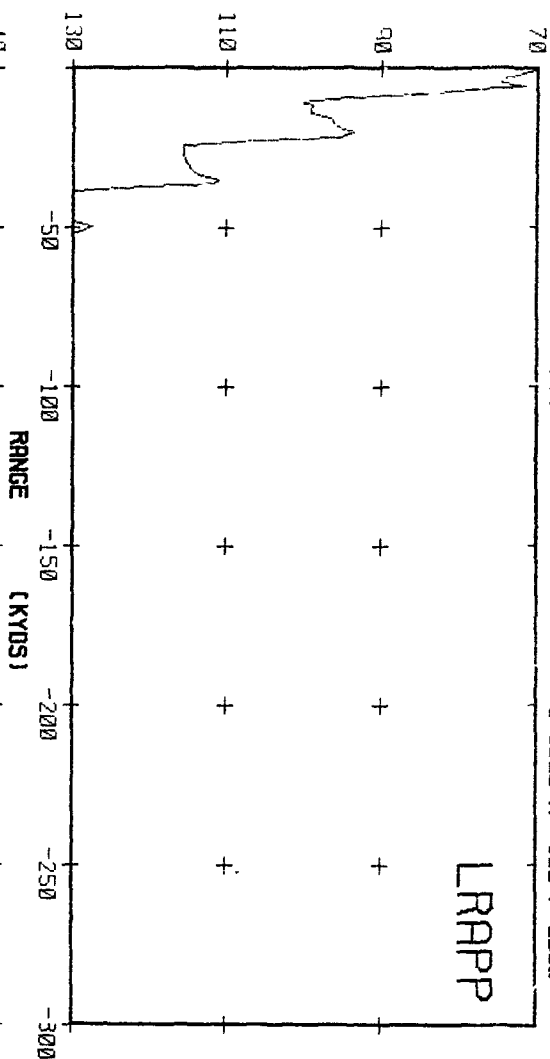


AREA 5 MINIER

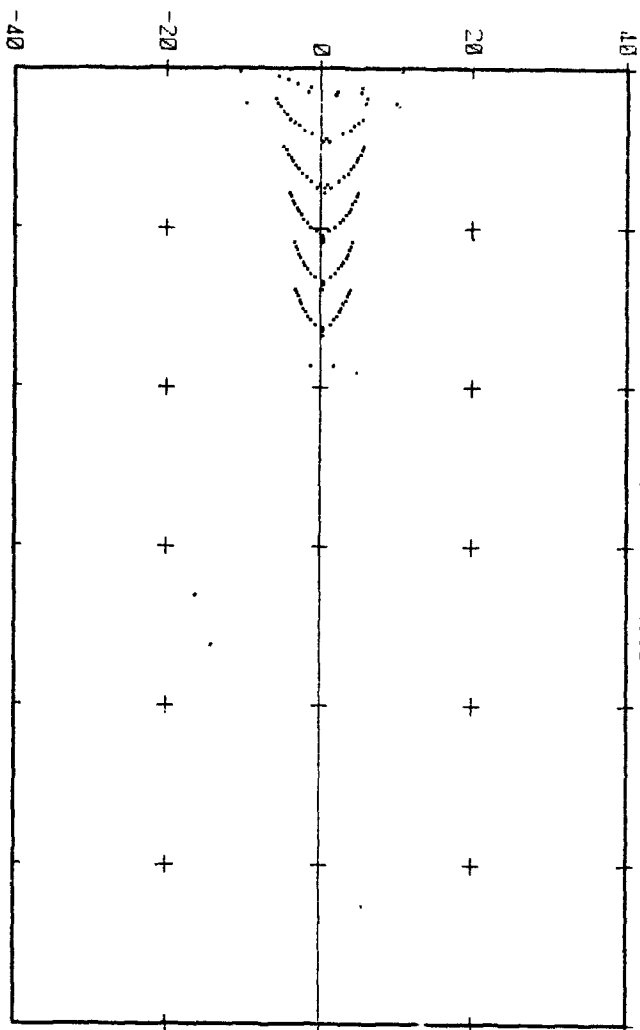
S 1020 R 300 F 2063

LRAPP

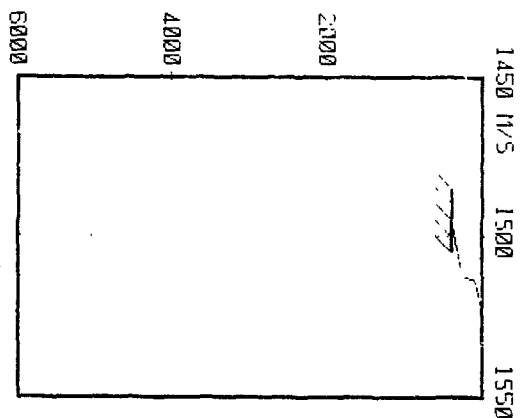
DB LOSS



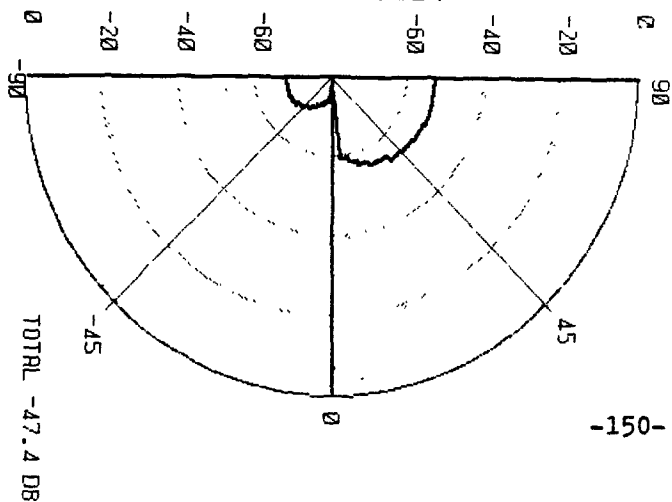
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



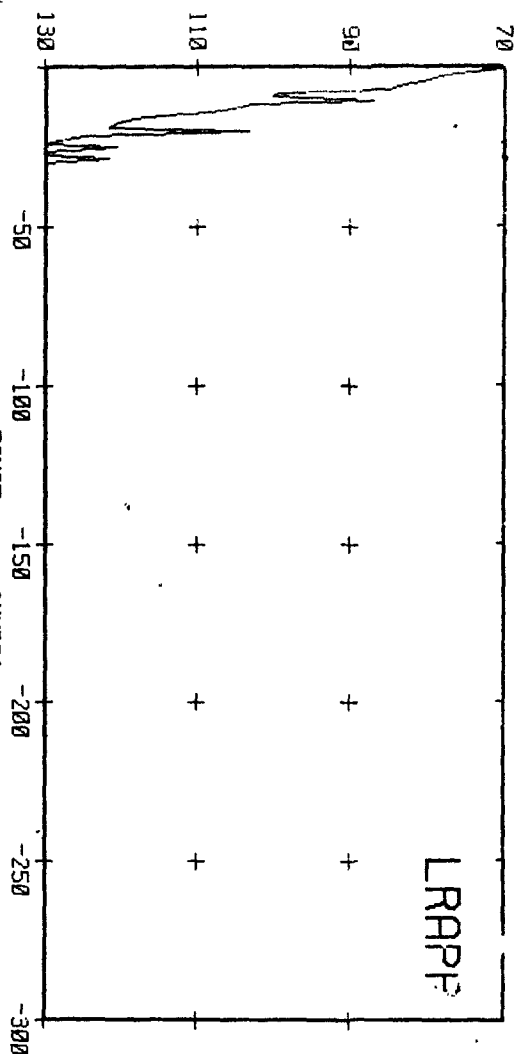
TOTAL -47.4 DB

AREA 5 WINTER

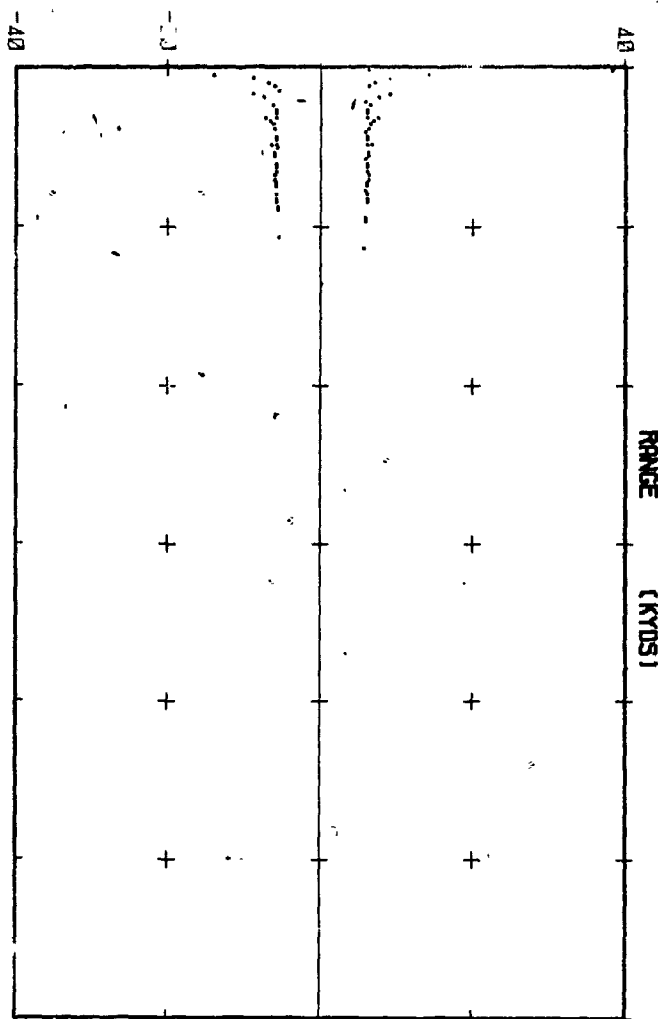
S 20 R 328 F 2100

1450 M/S 1500 1550

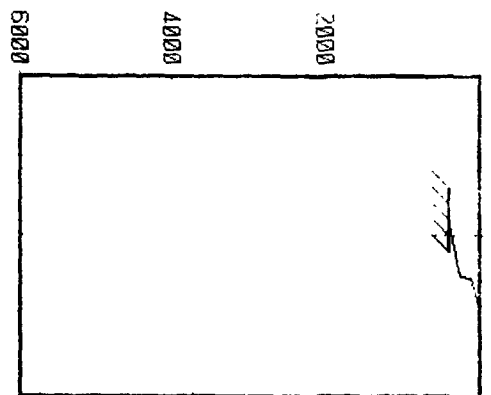
DB LOSS



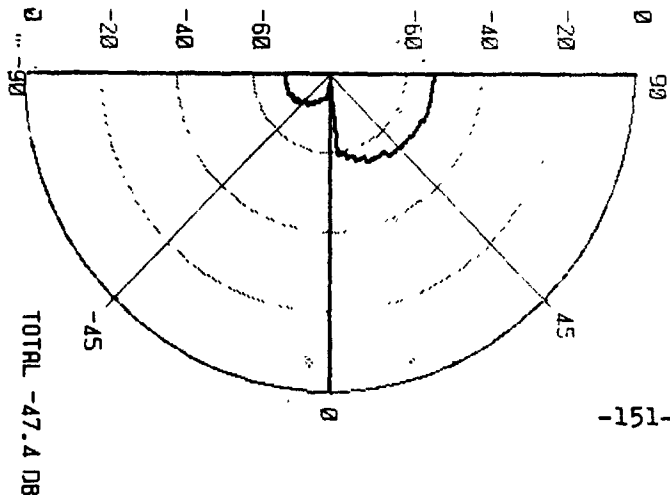
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



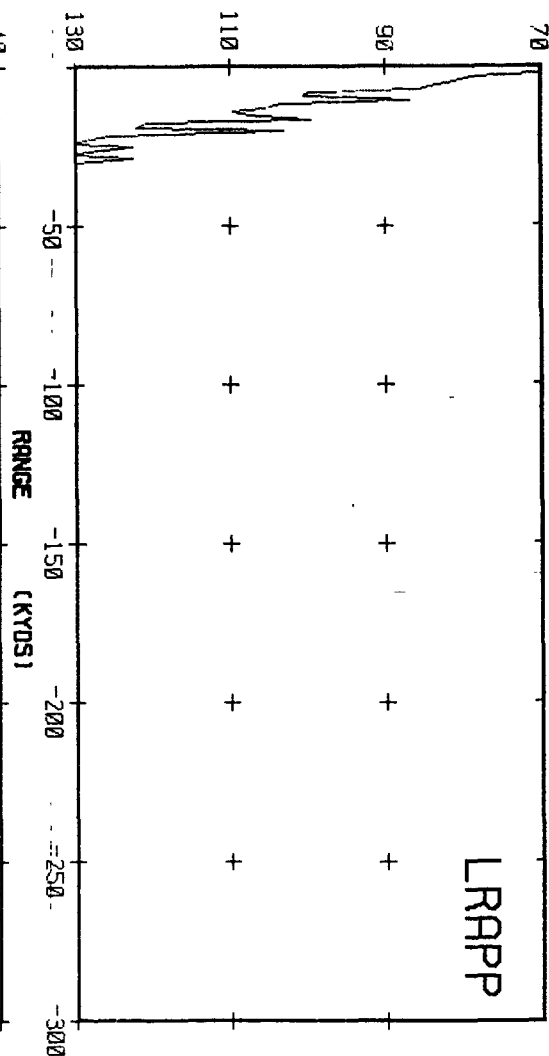
-151-

AREA 5 HINTER

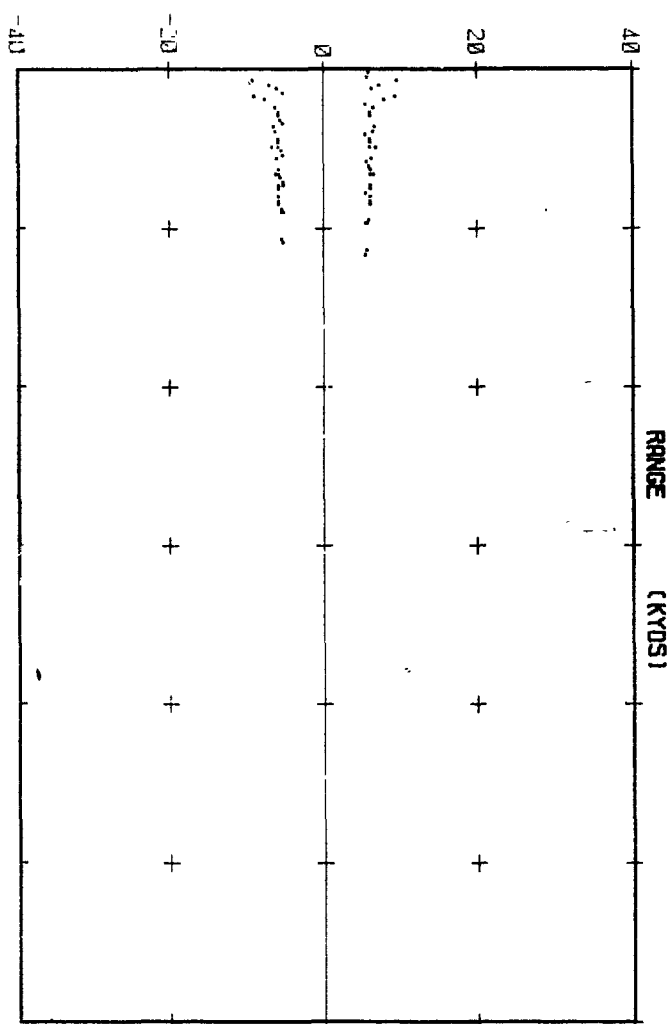
S 50 R 328 F 2000

LRAPP

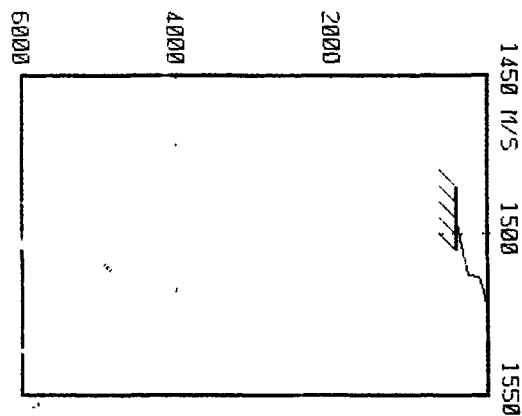
DB LOSS



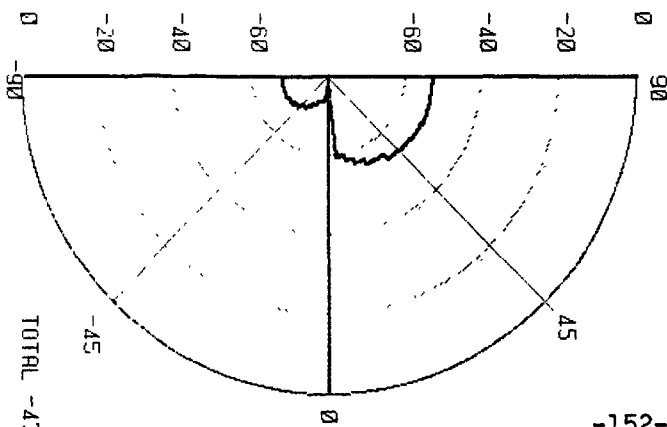
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



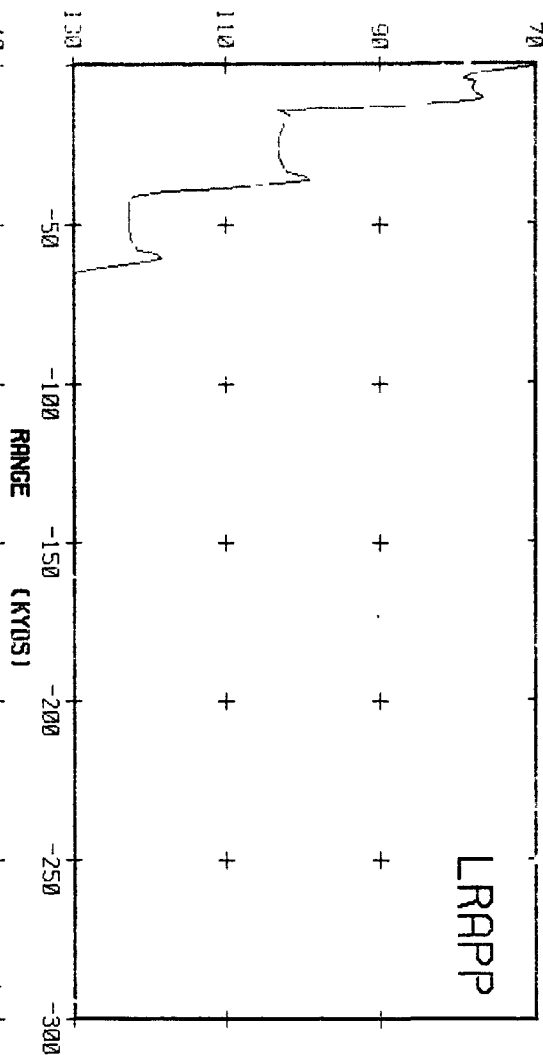
-152-

AREA 5 WINTER

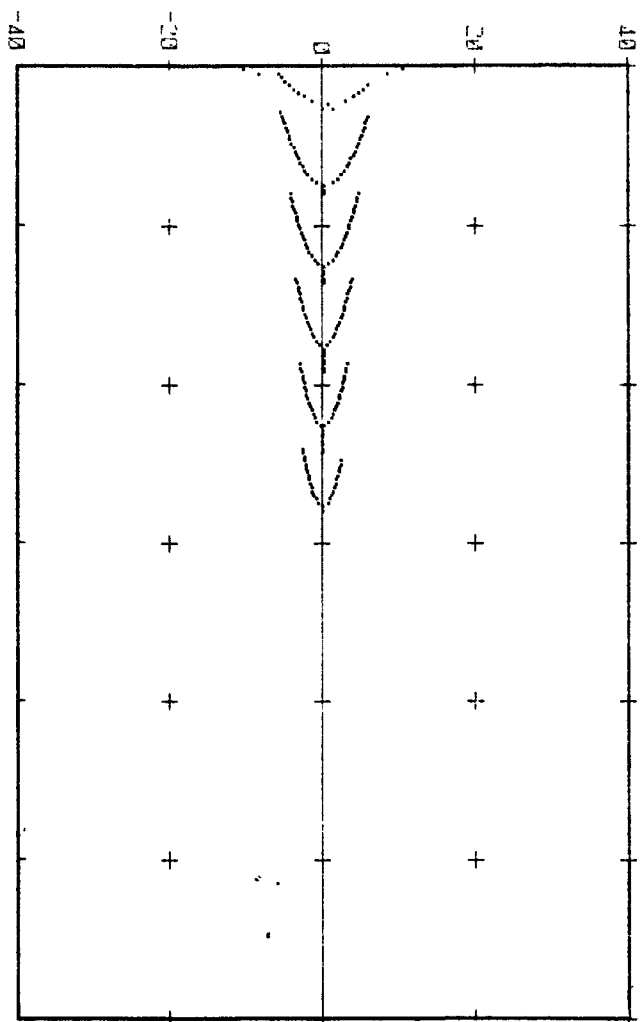
S 1020 R 328 F 2000

LRAPP

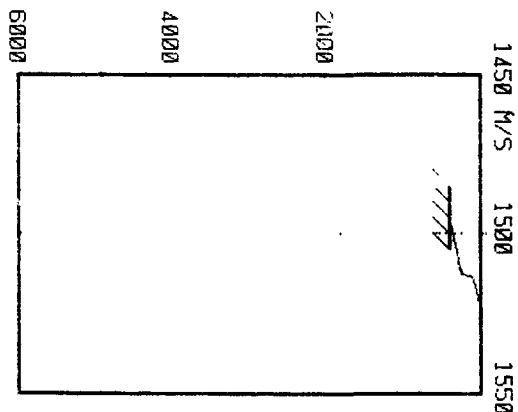
DB LOSS



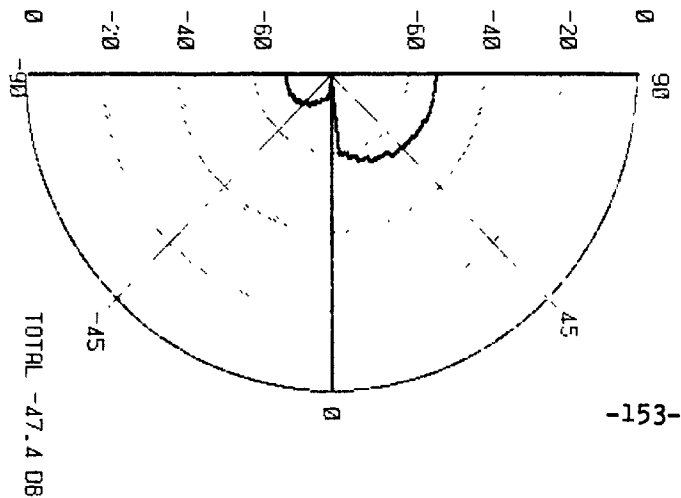
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



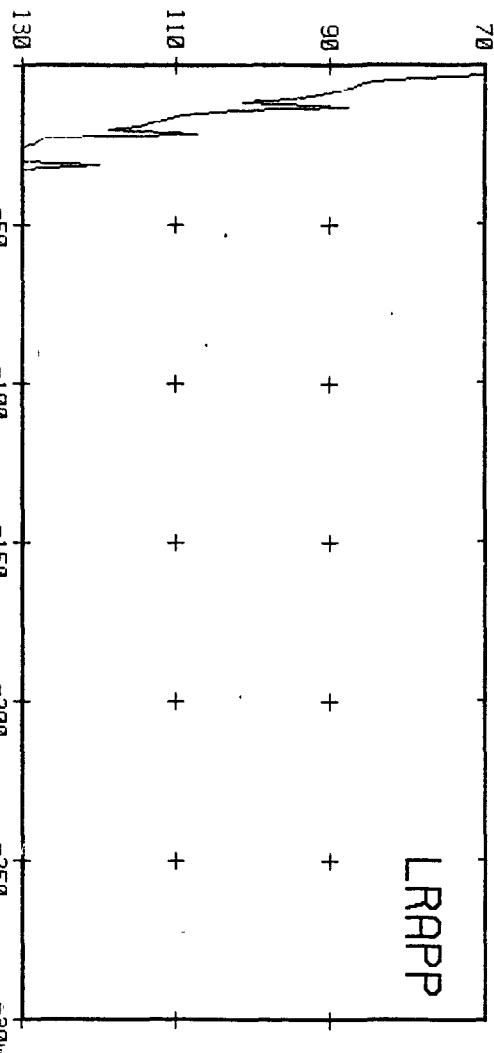
TOTAL -47.4 DB

AREA 5 MINTER

S 20 R 920 F 2000

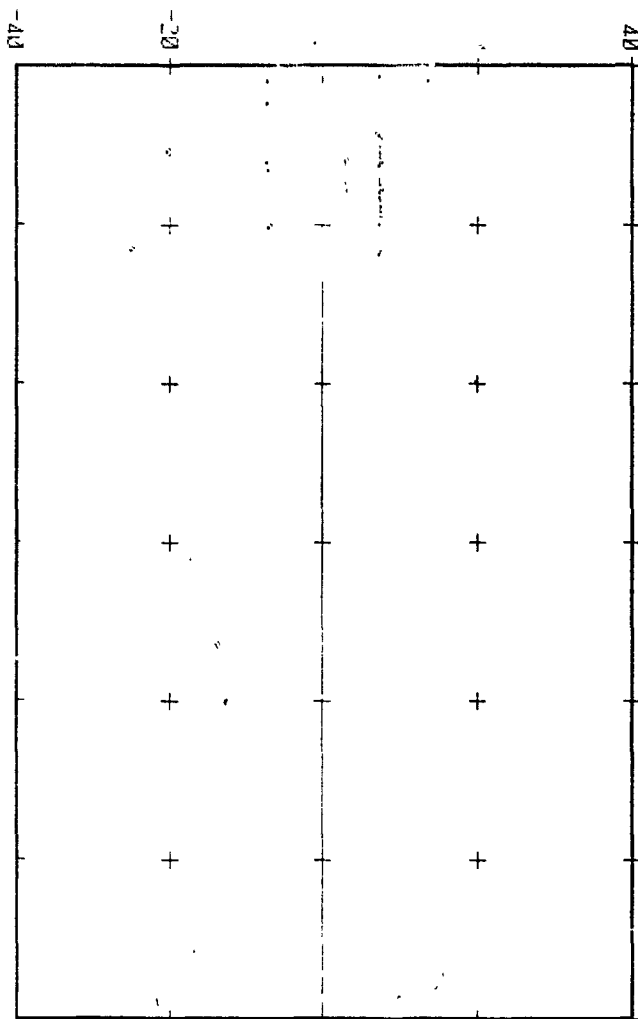
1450 M/S 1500 1550

DB LOSS

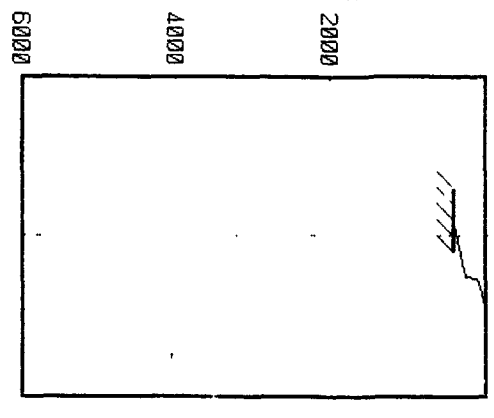


RANGE (KYDOS)

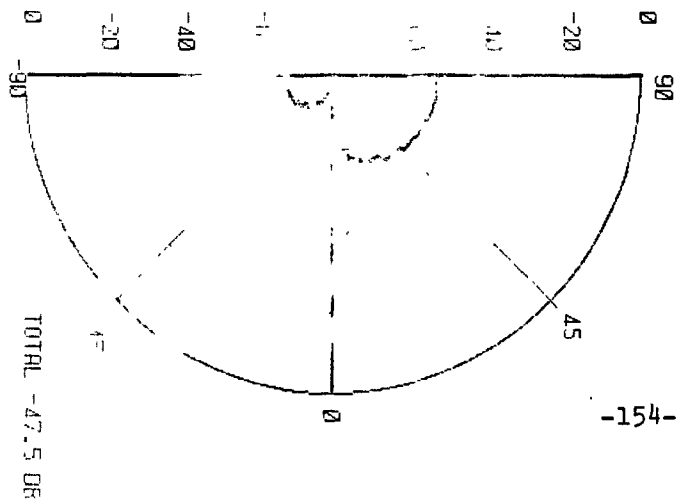
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



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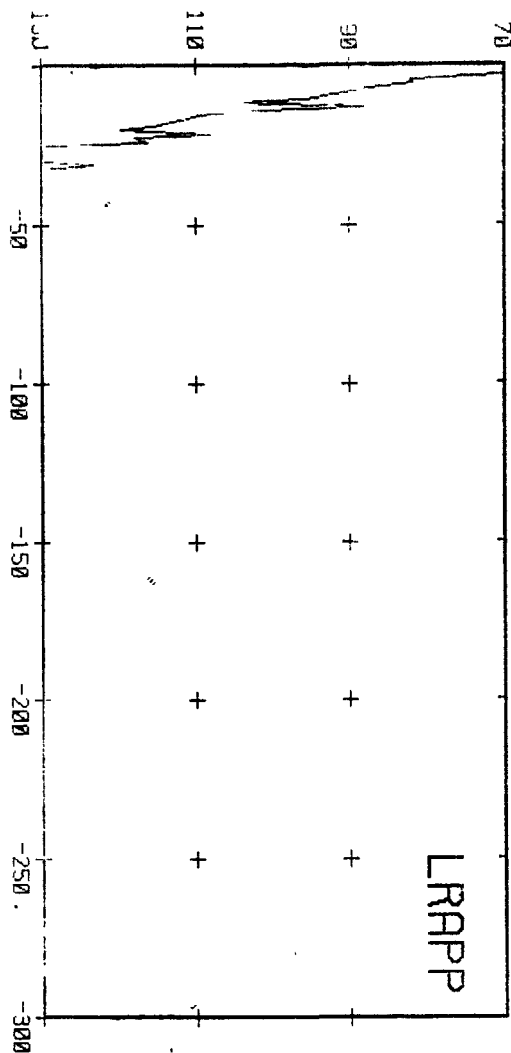
TOTAL -47.5 DB

AREA 5 WINTER

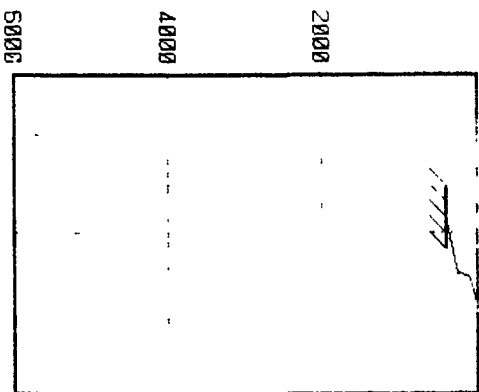
S 50 R 920 F 2000

1450 M/S 1500 1550

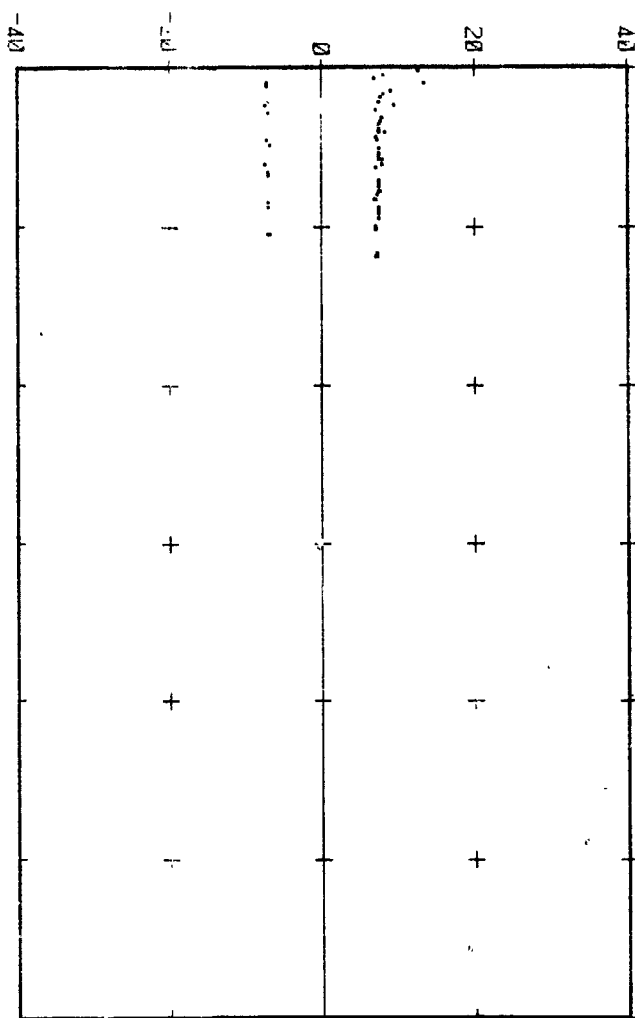
DB LOSS



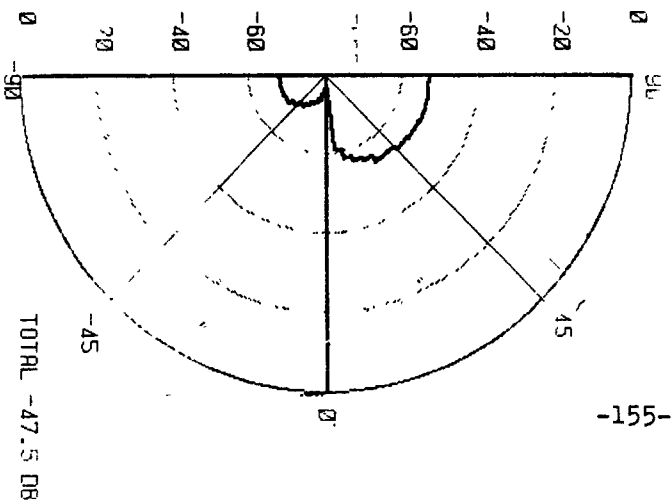
DEPTH IN METERS



ARRIVAL ANGLE



NOISE (DB)

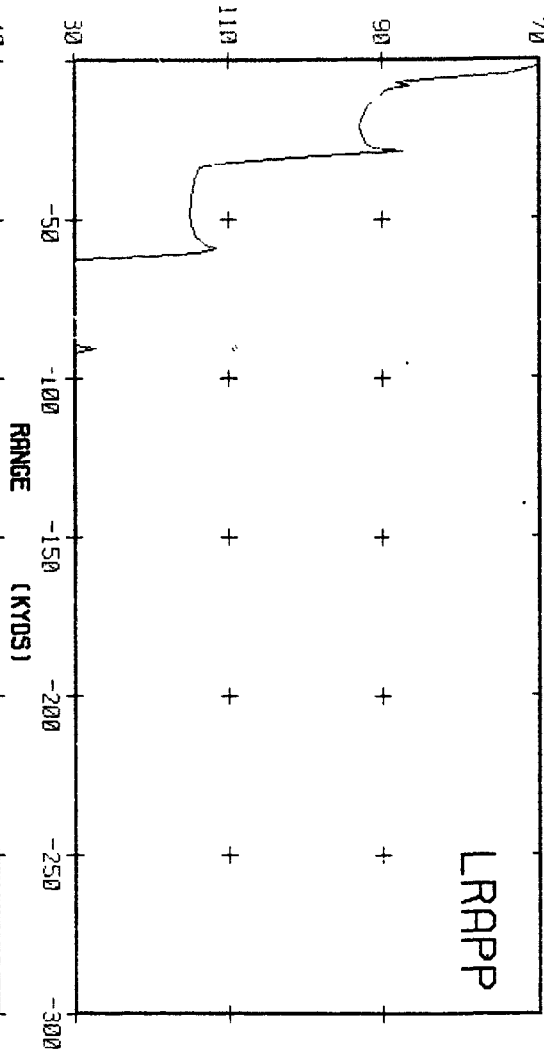


AREA 5 WINTER

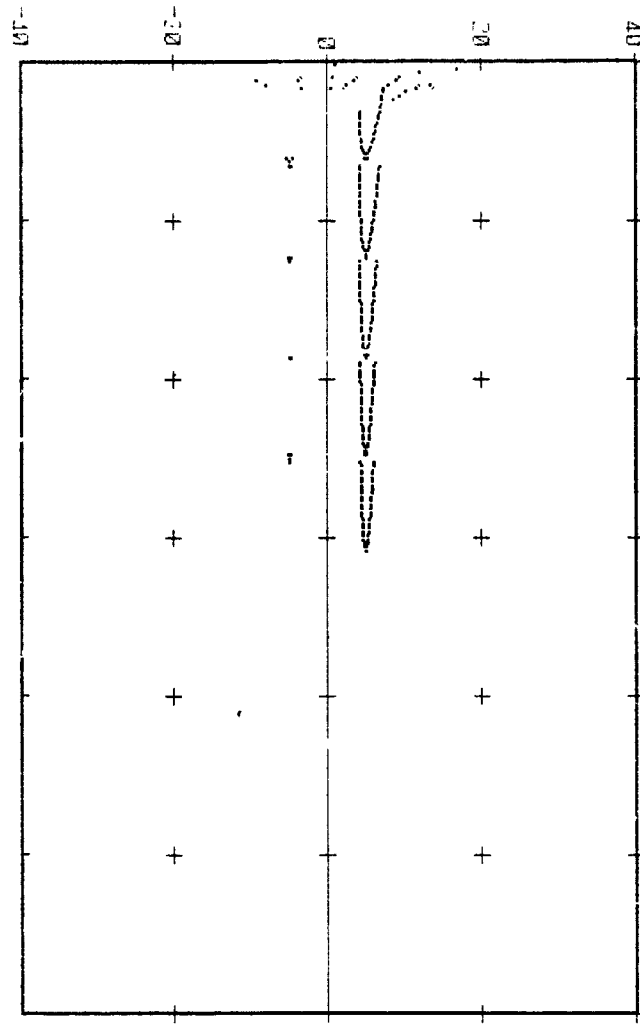
S 1020 R 920 F 2000

LRAPP

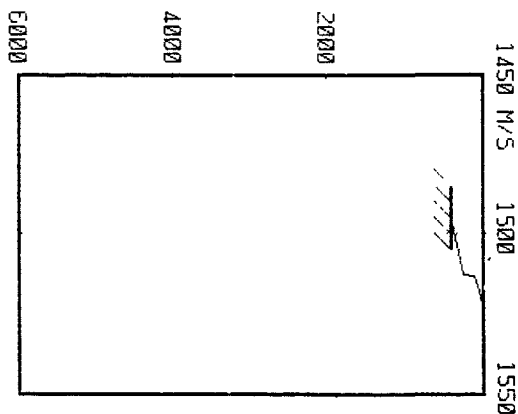
DB LOSS



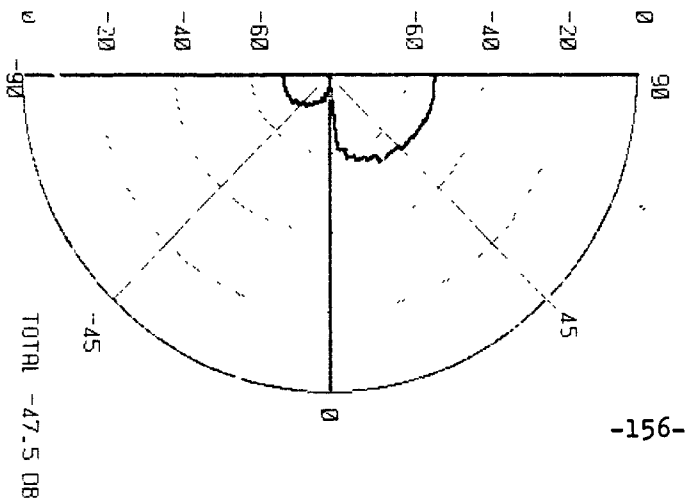
ARRIVAL ANGLE



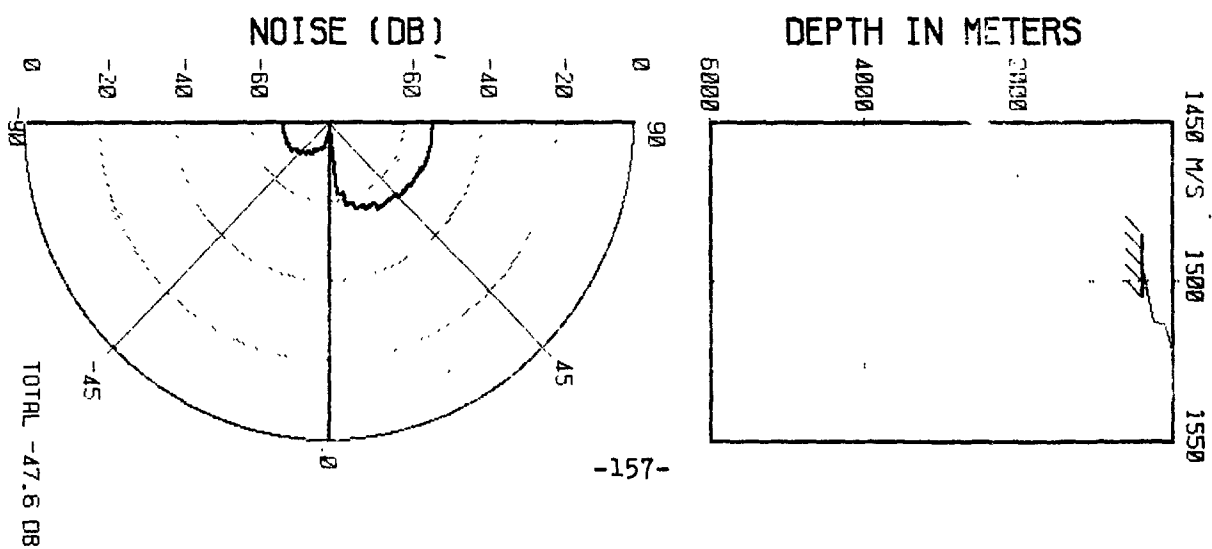
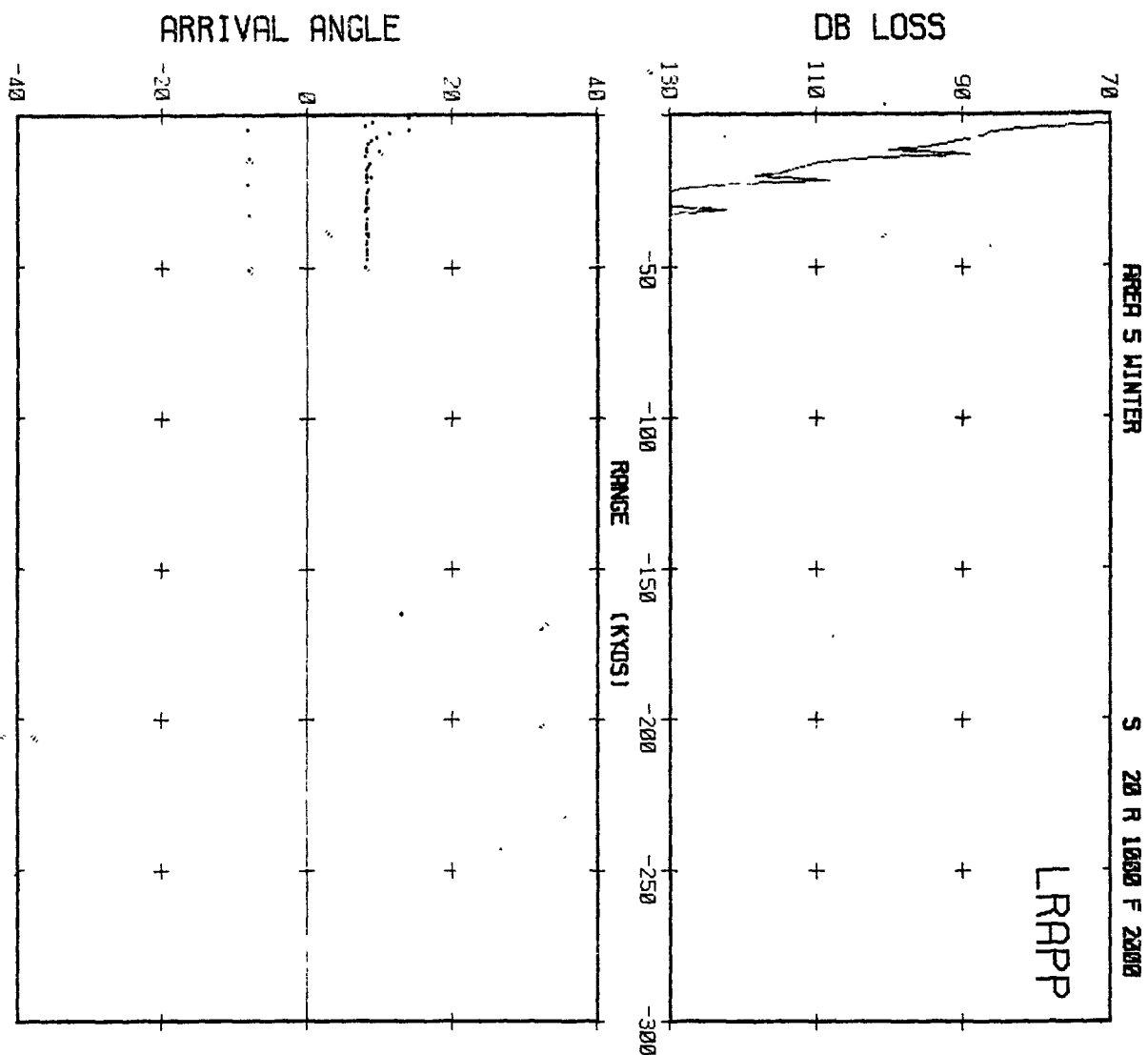
DEPTH IN METERS



NOISE (DB)



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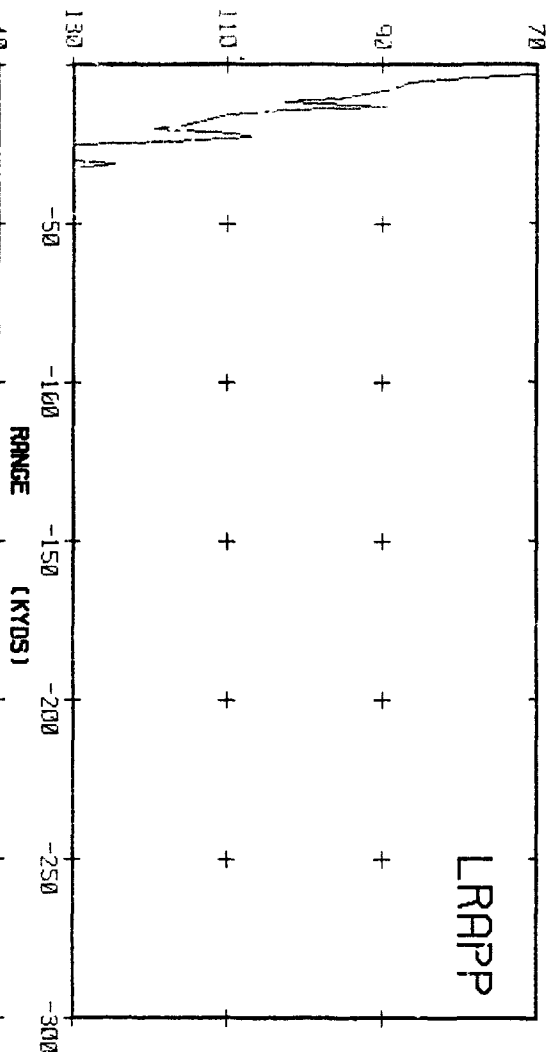


PRER 5 WINTER

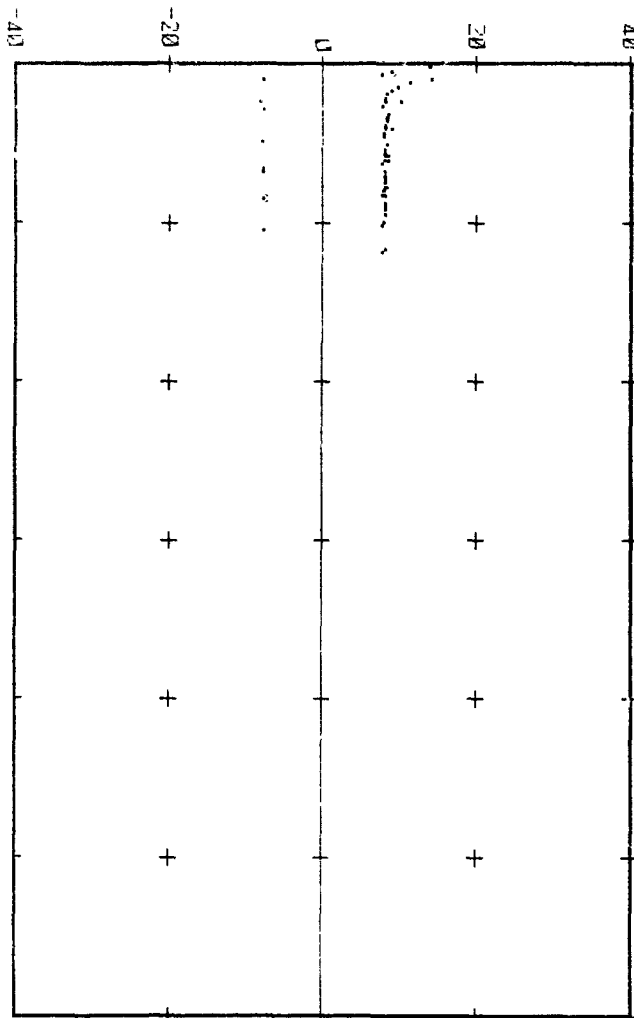
S 50 R 1000 F 2000

LRAPP

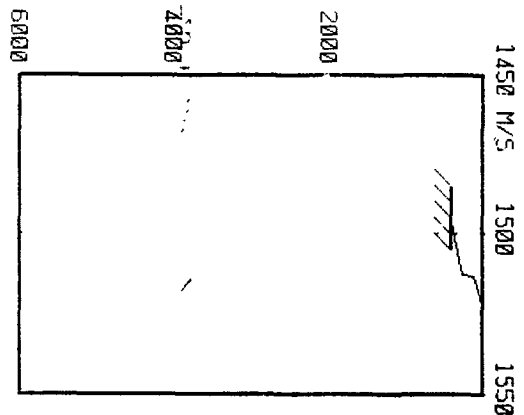
DB LOSS



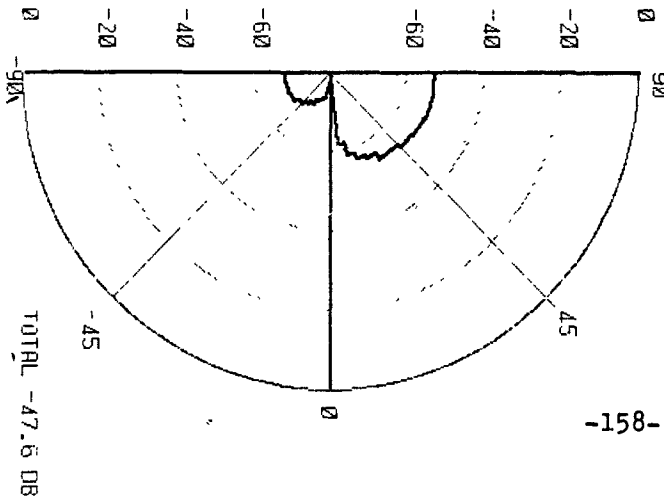
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



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TOTAL -47.6 DB

AREA 5 WINTER

S 1020 R 1000 F 2000

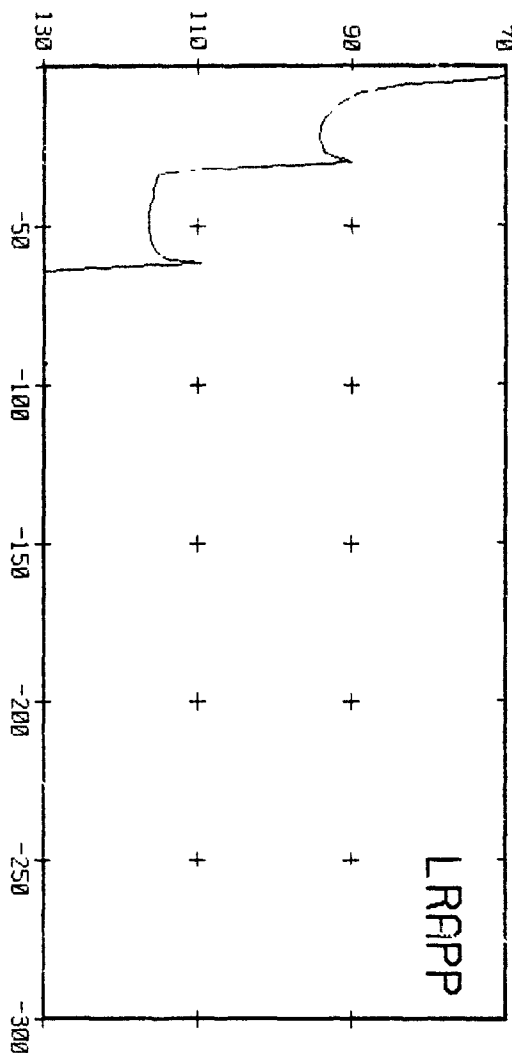
1450 M/S

1500

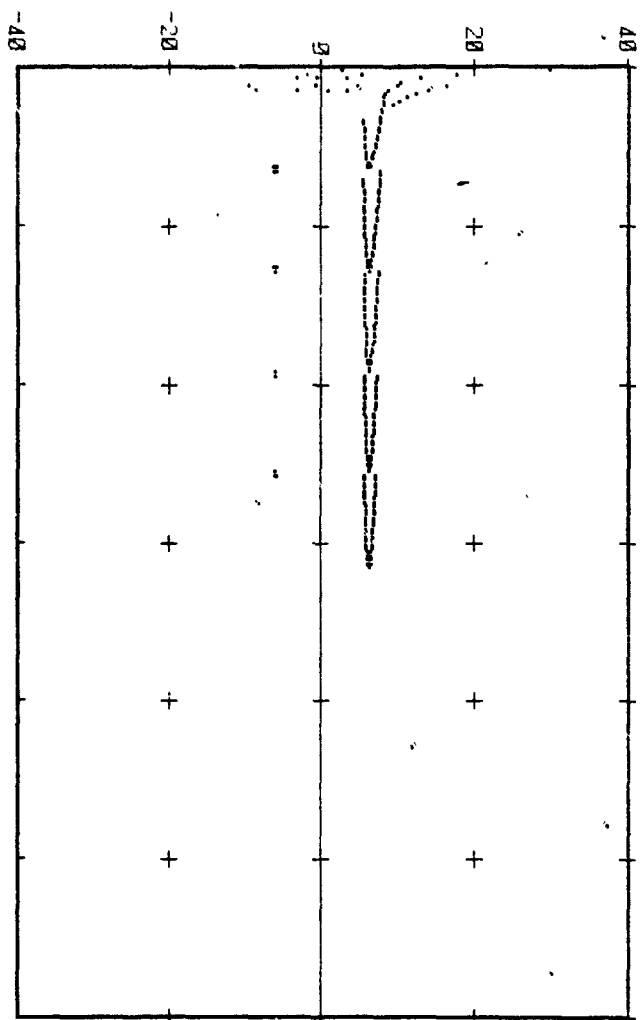
1550

LRAPP

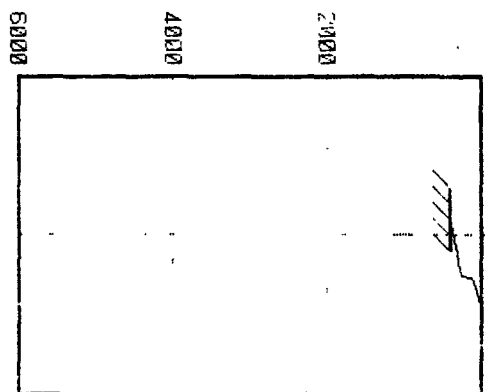
DB LOSS



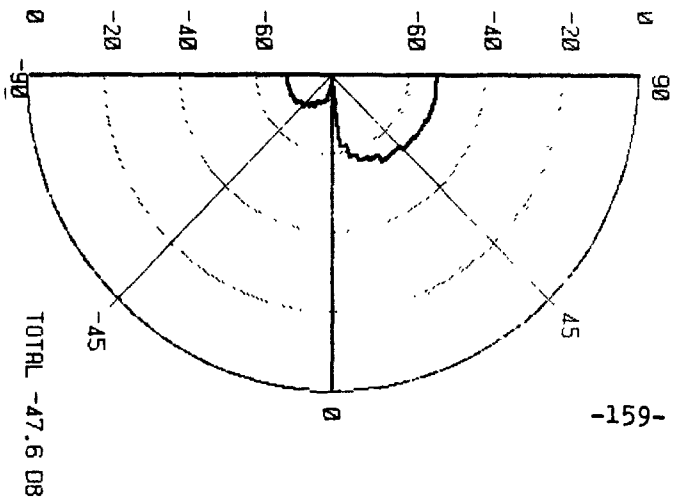
ARRIVAL ANGLE

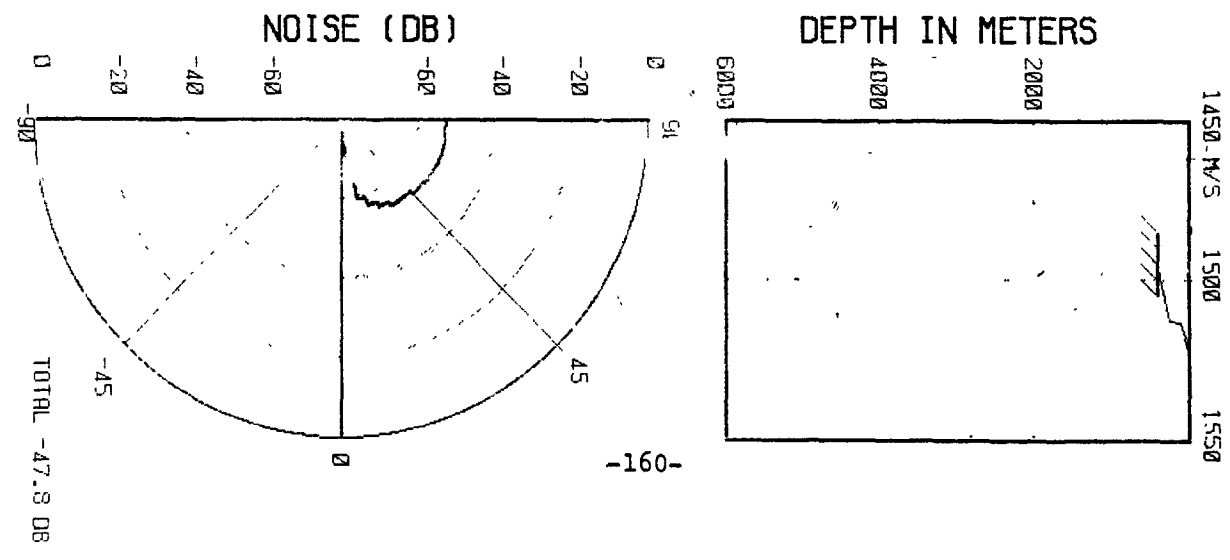
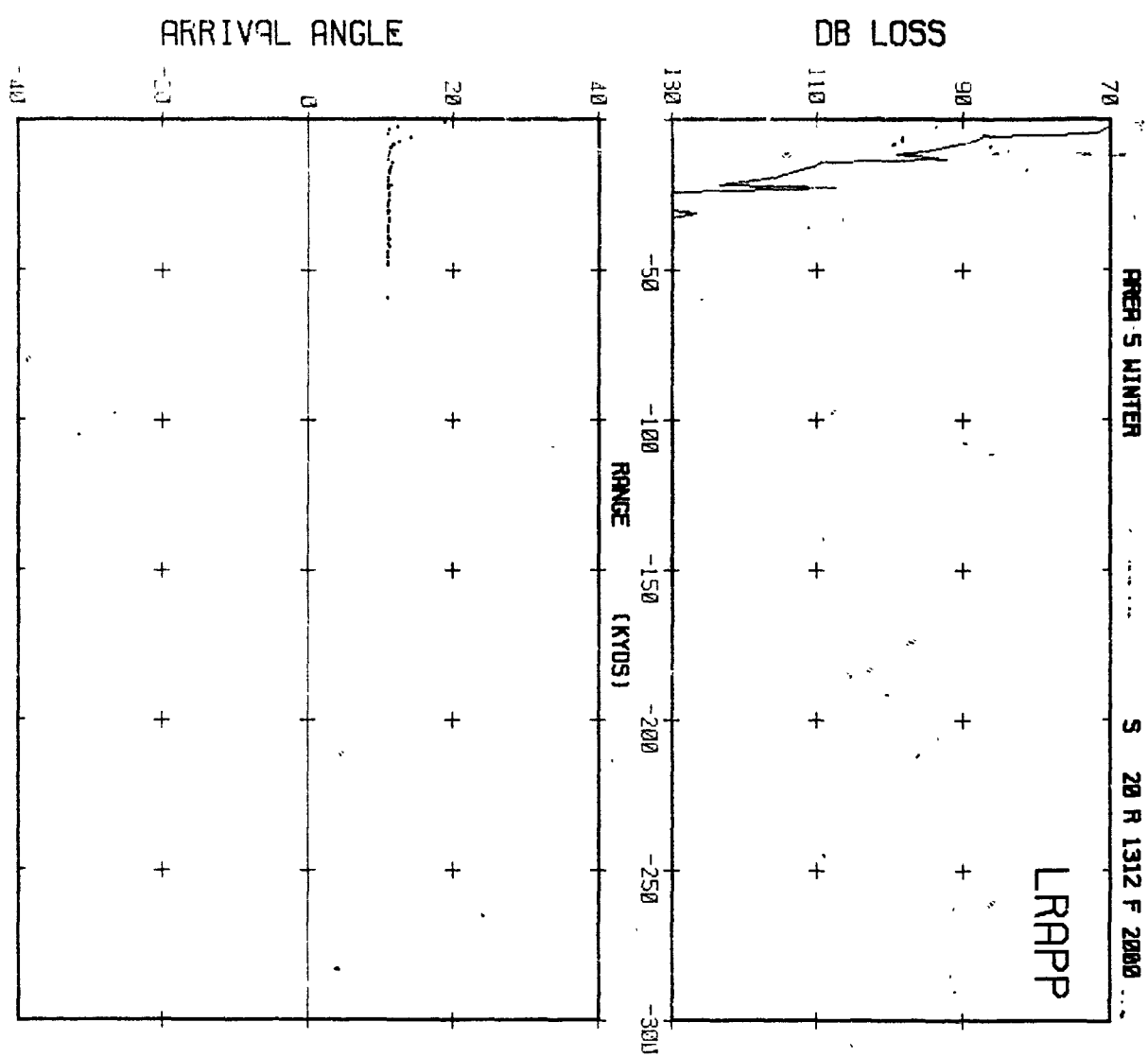


DEPTH IN METERS



NOISE (DB)





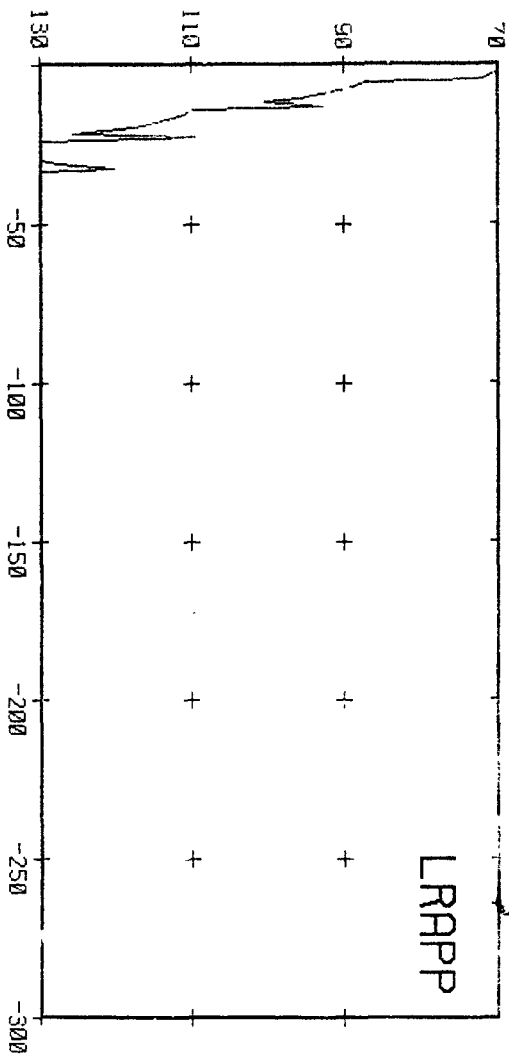
AREA 5 WINTER

S 50 R 1312 F 2000

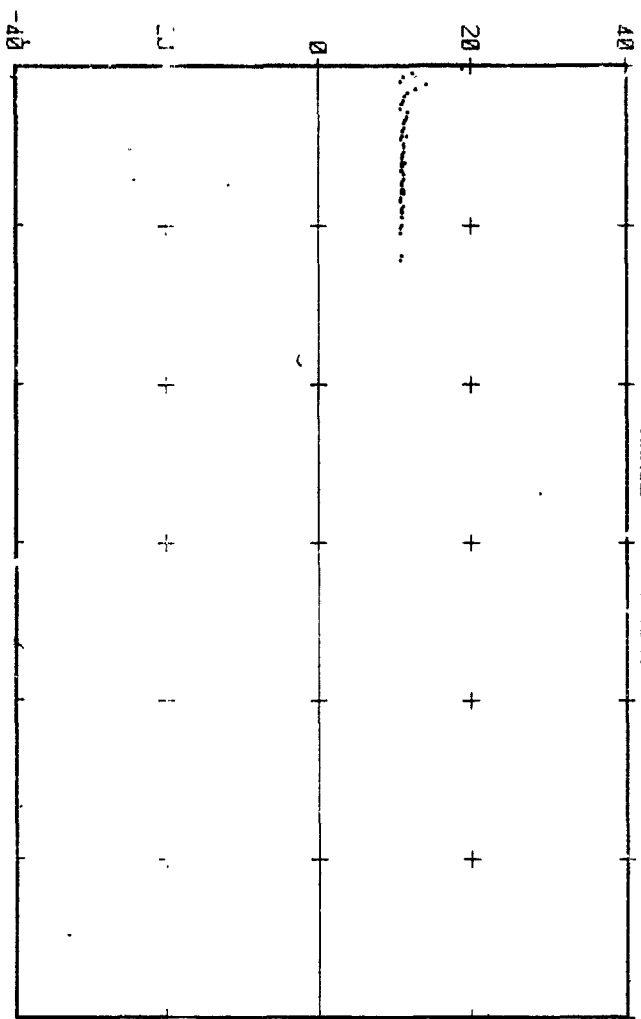
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LRAPP

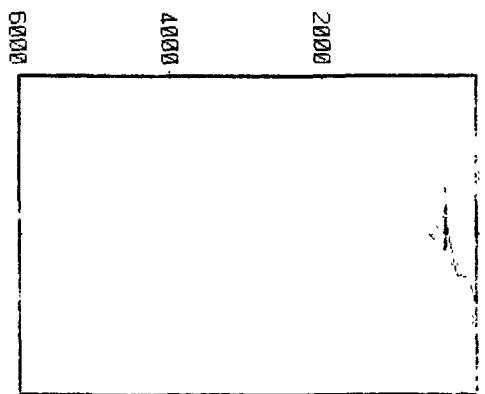
DB LOSS



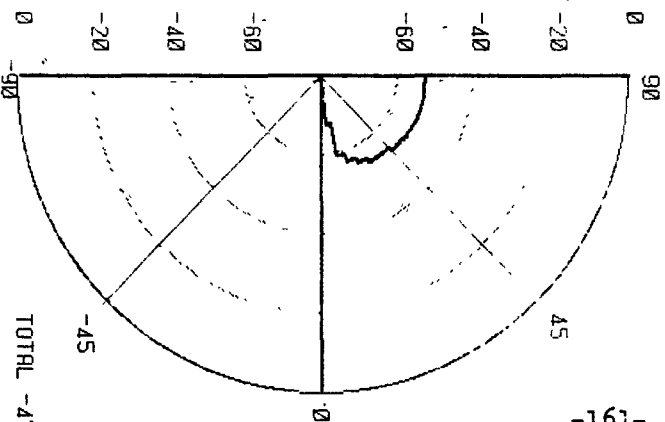
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



TOTAL -47.8 DB

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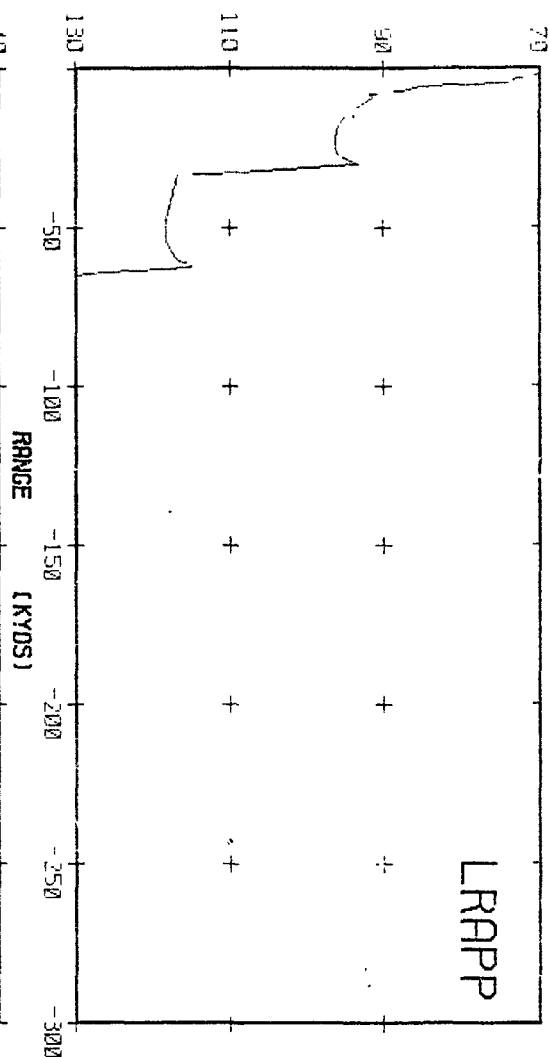
RRR 5 WINTER

S 1020 R 1312 F 2000

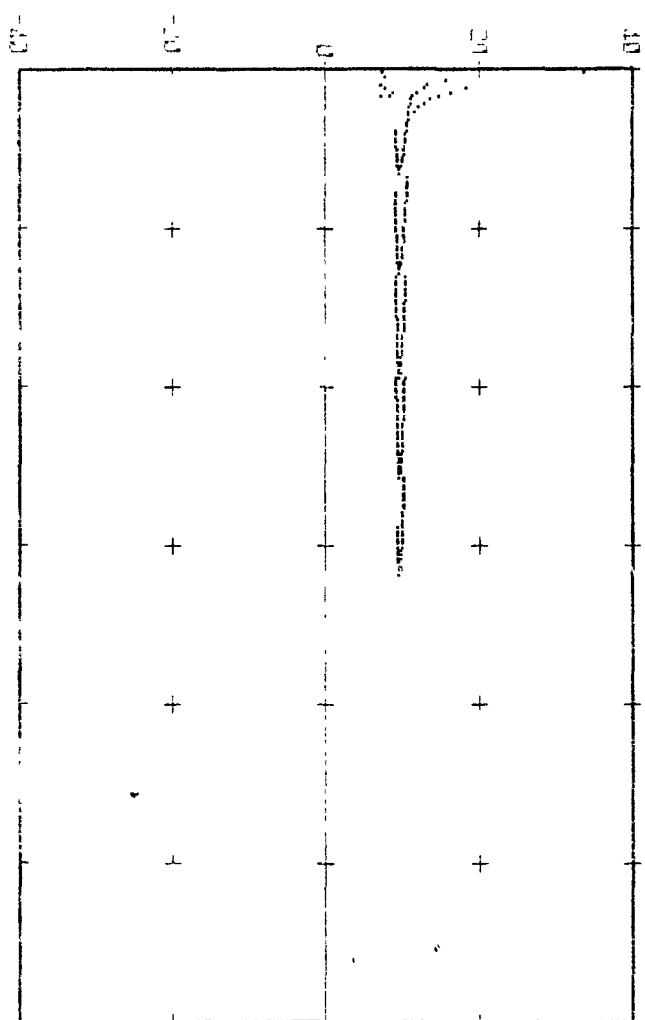
1450 N/S 1500

1550

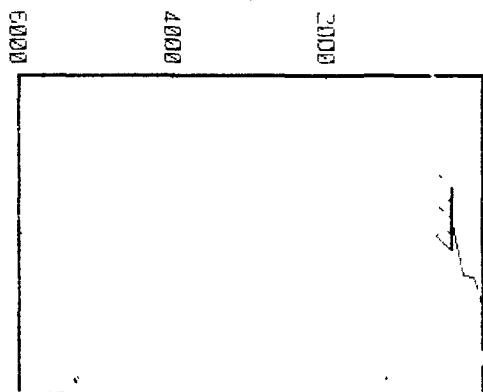
DB LOSS



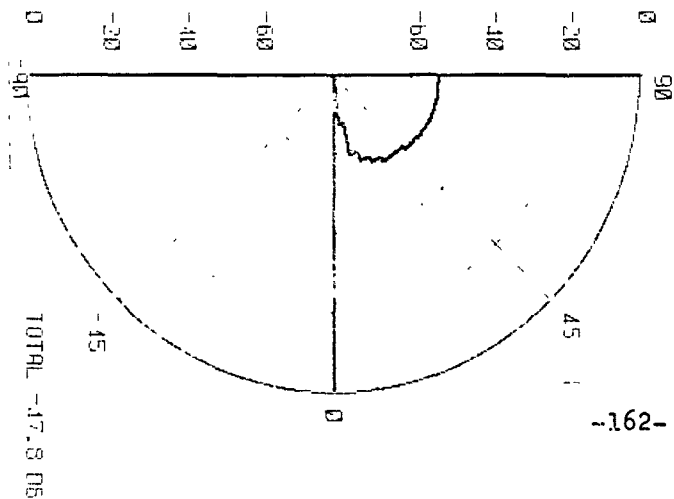
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

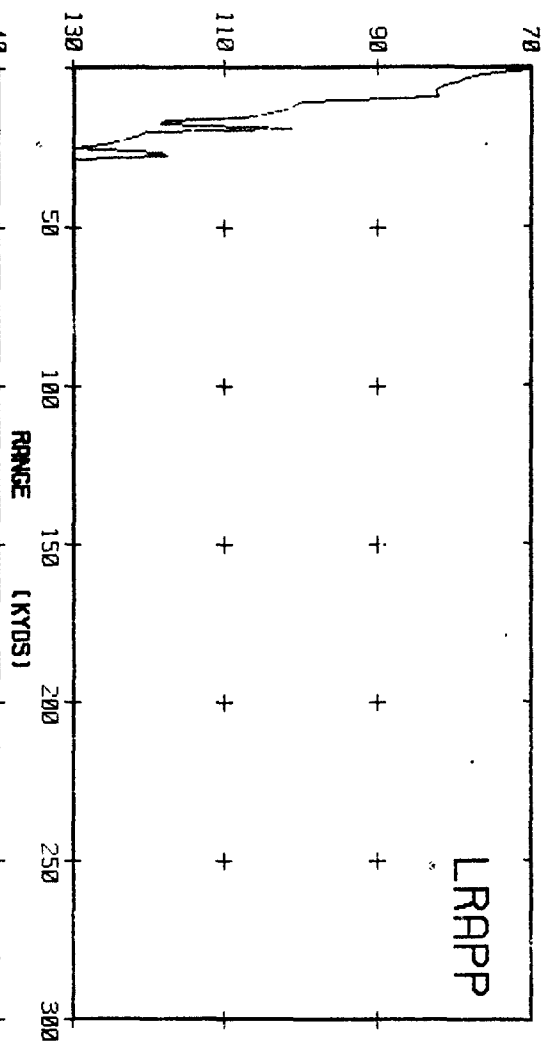


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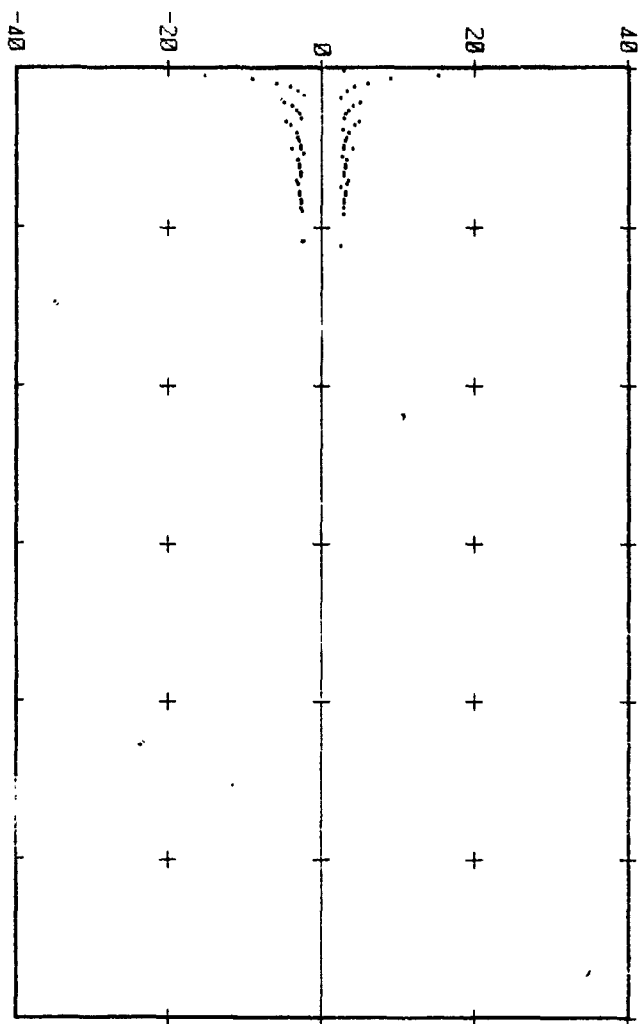
S 20 R 60 F 2500

DB LOSS

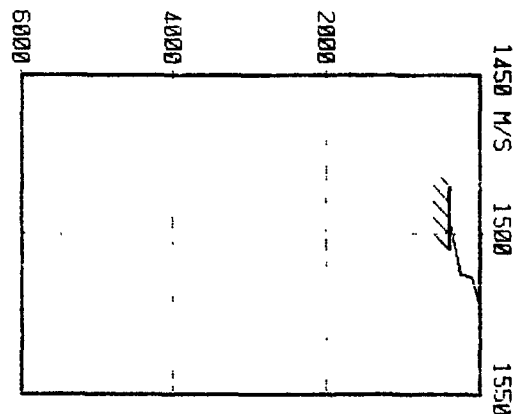


LRAPP

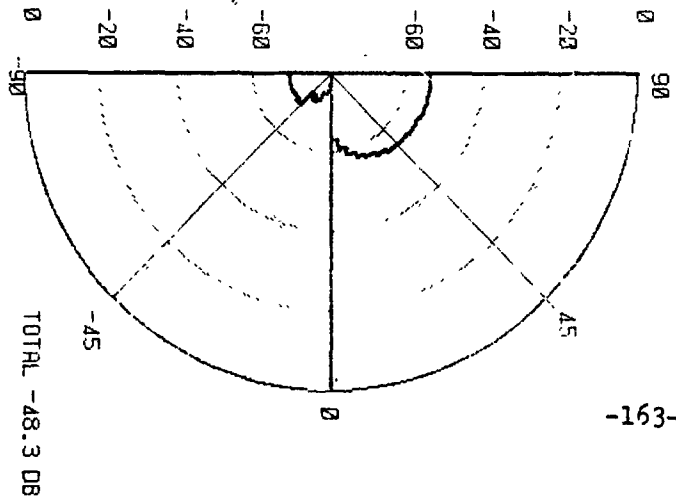
ARRIVAL ANGLE



DEPTH IN METERS

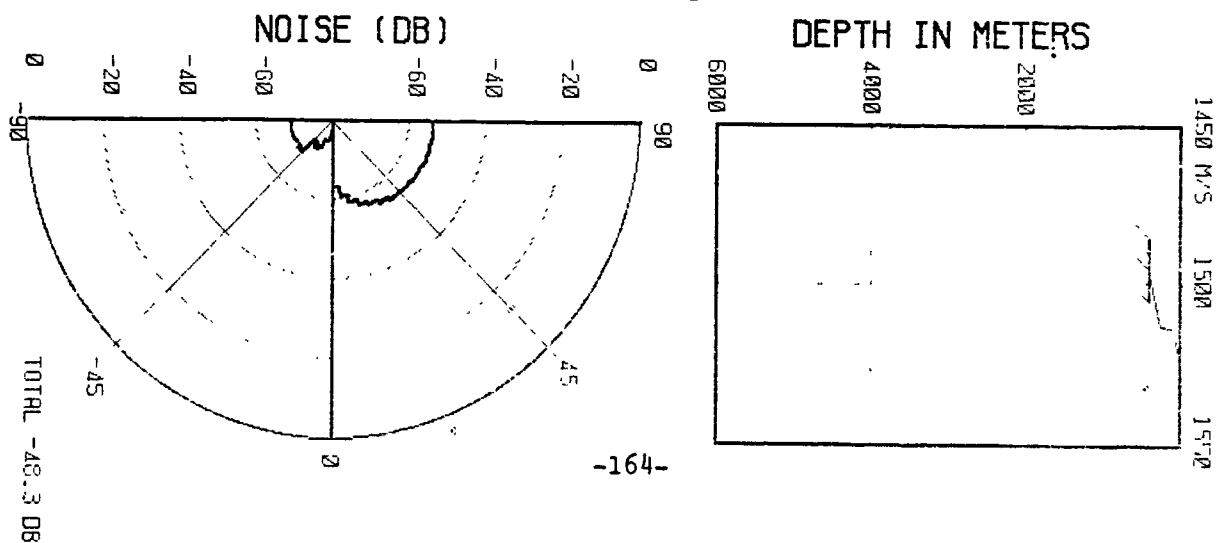
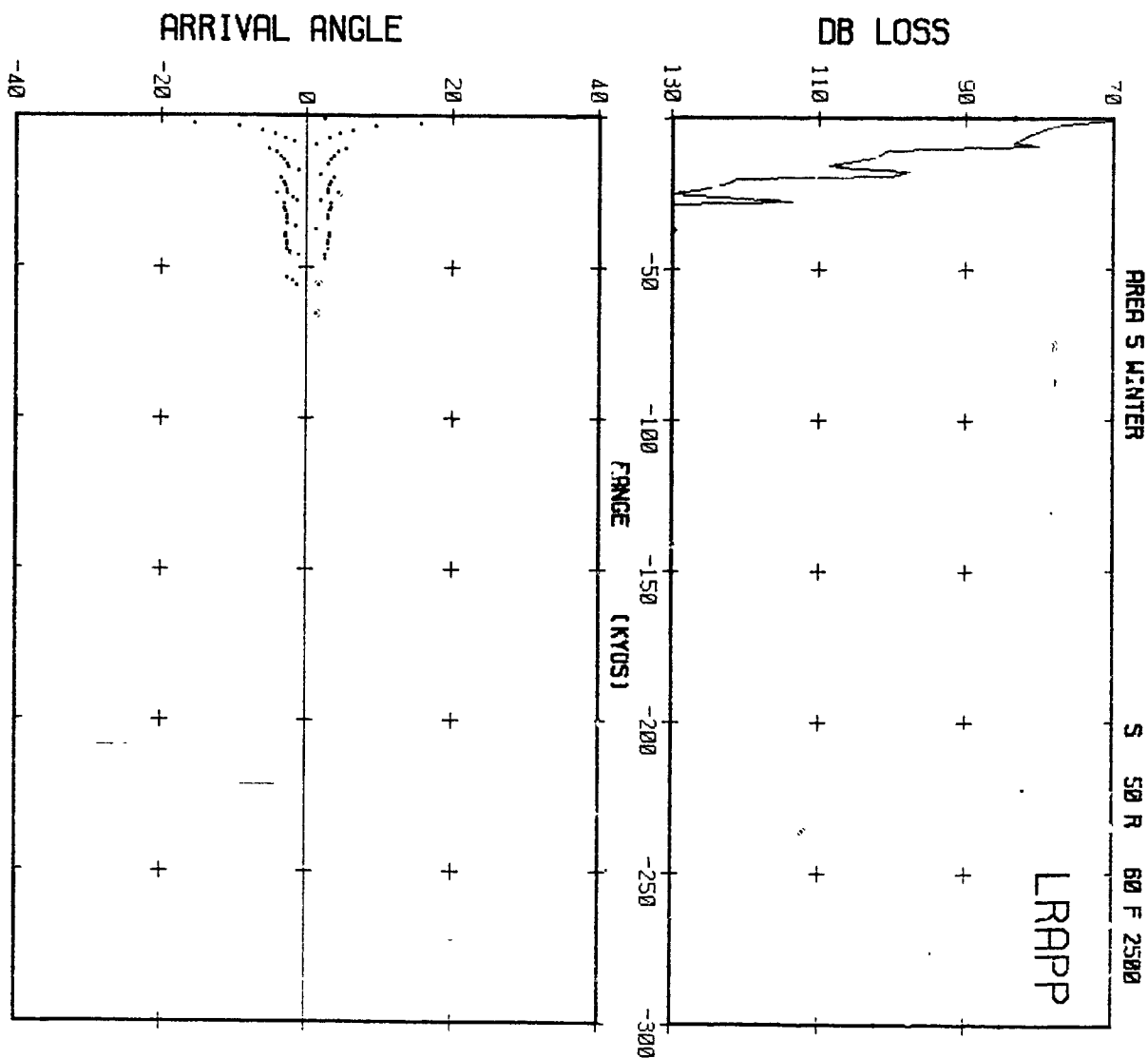


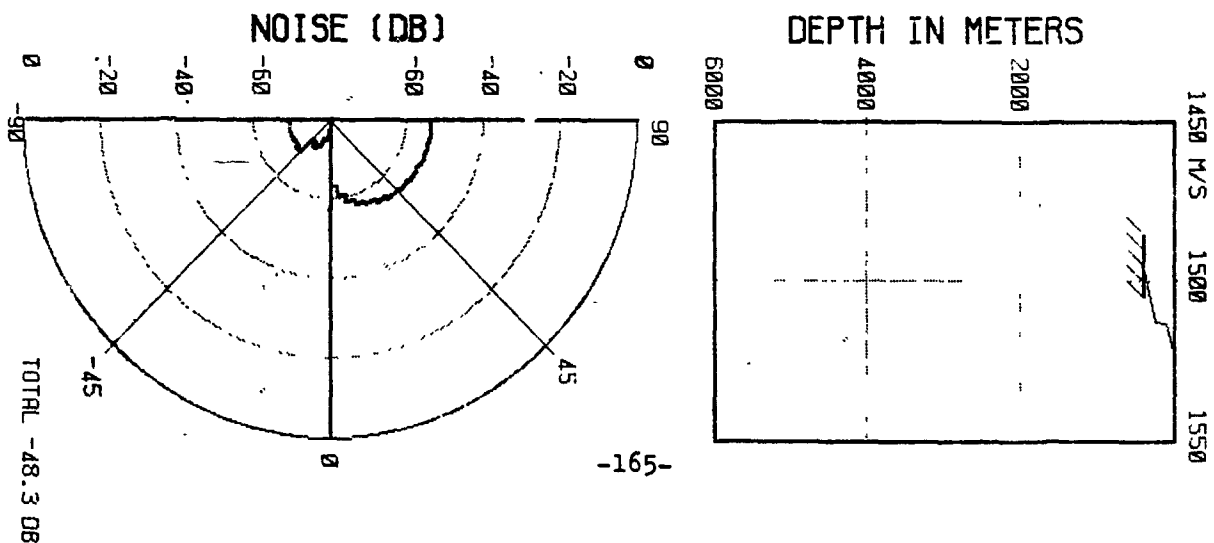
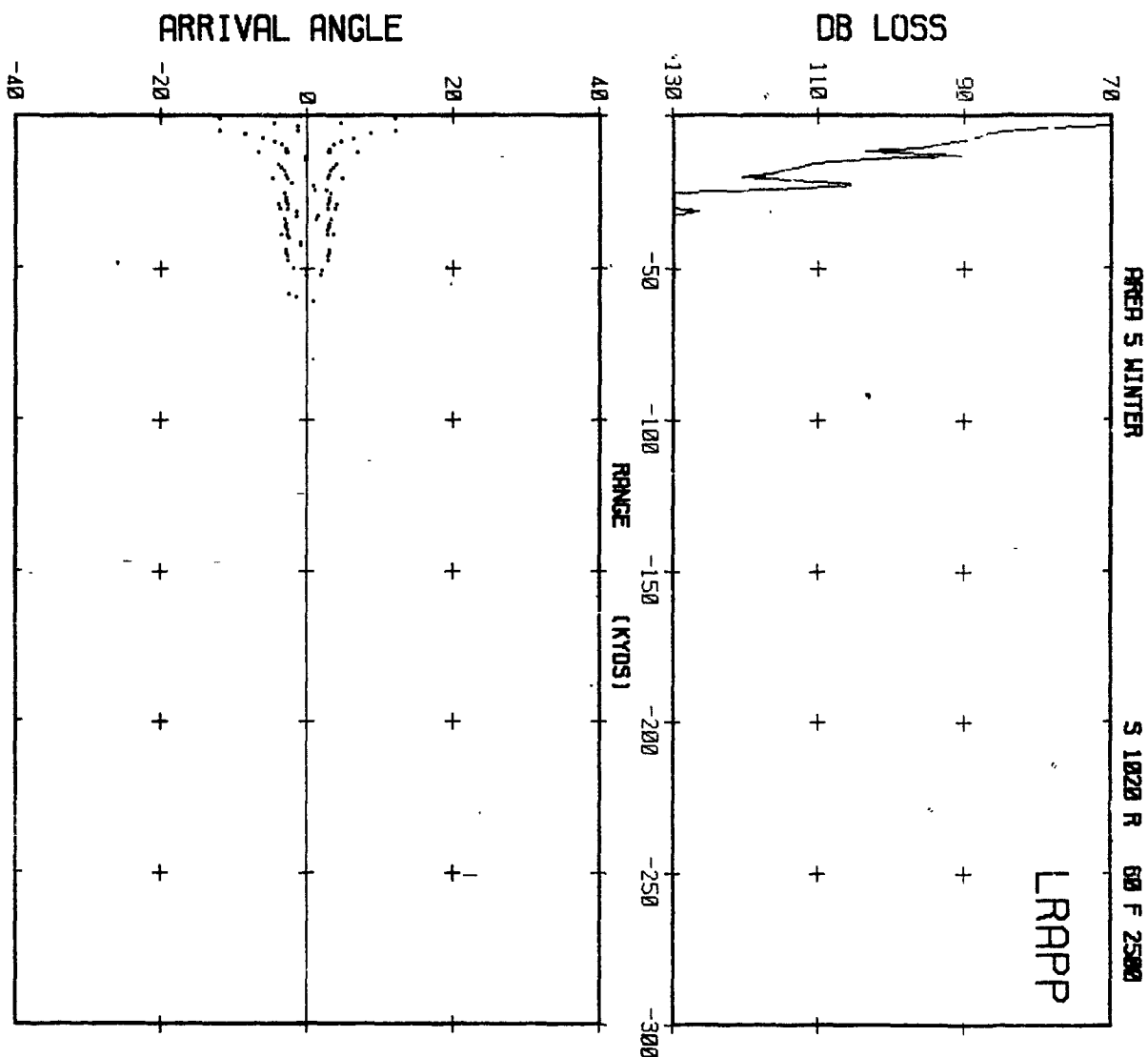
NOISE (DB)

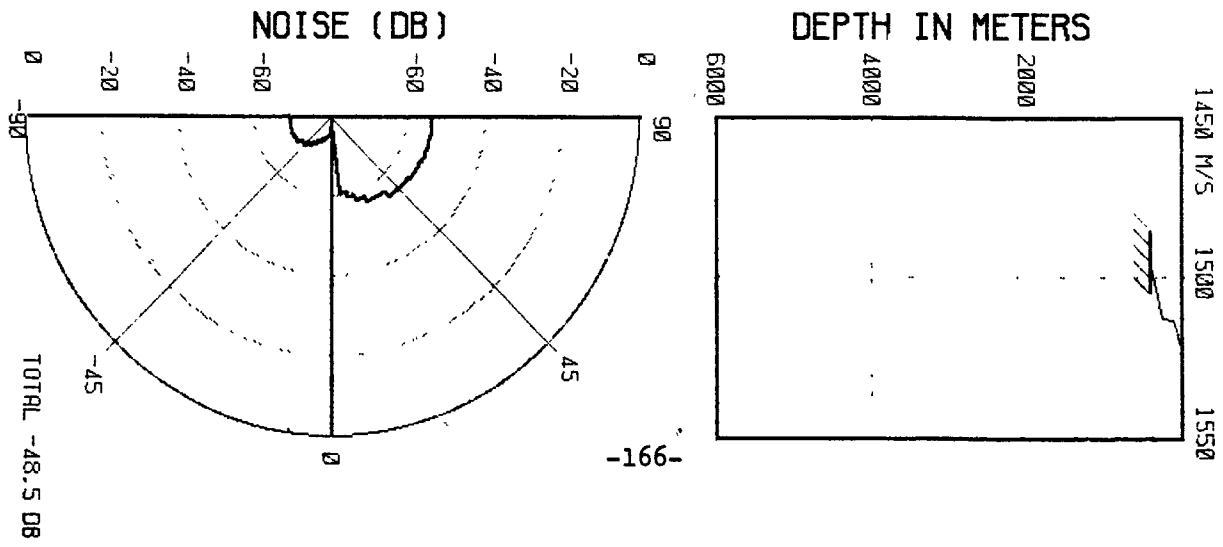
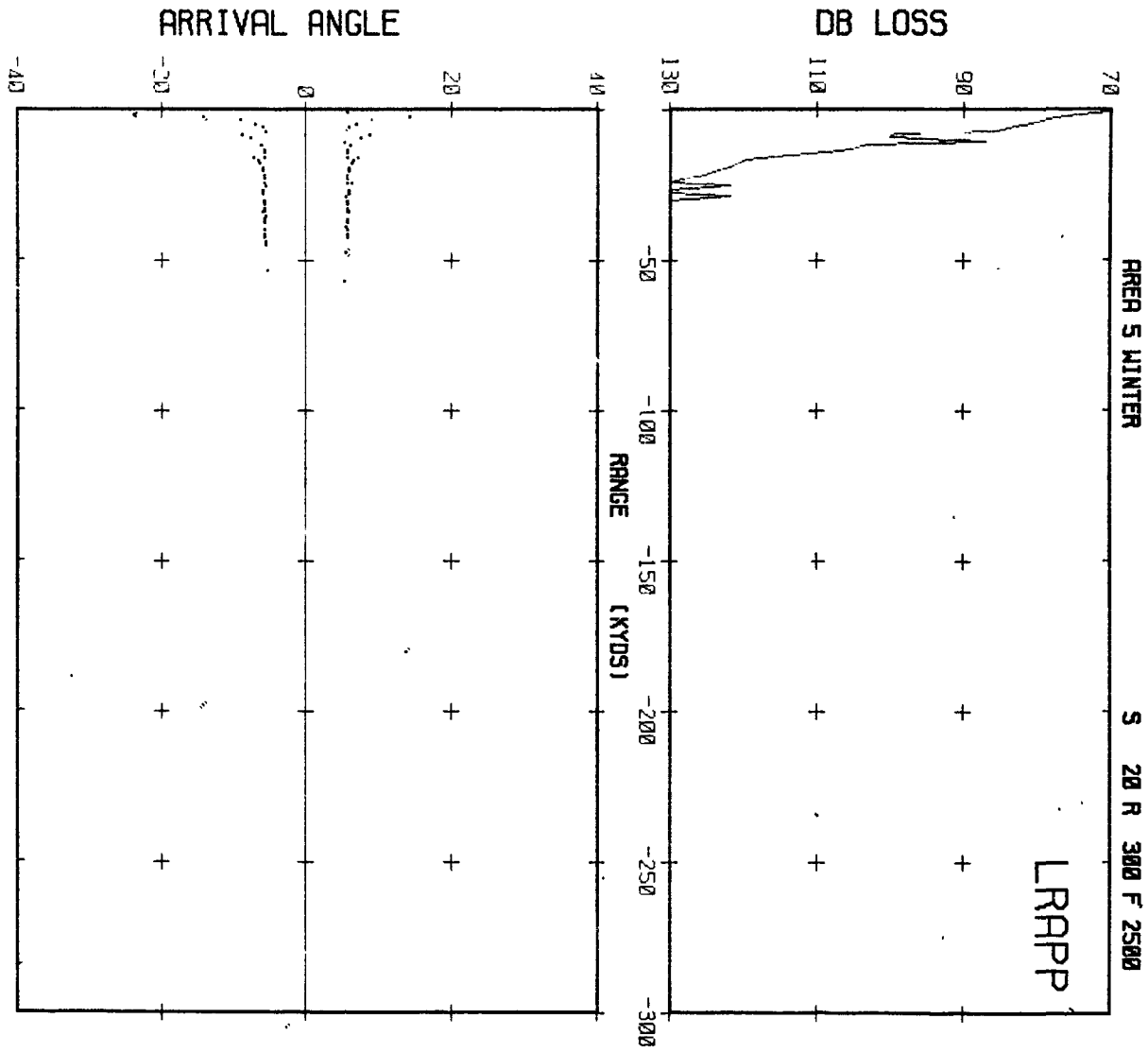


TOTAL -48.3 DB

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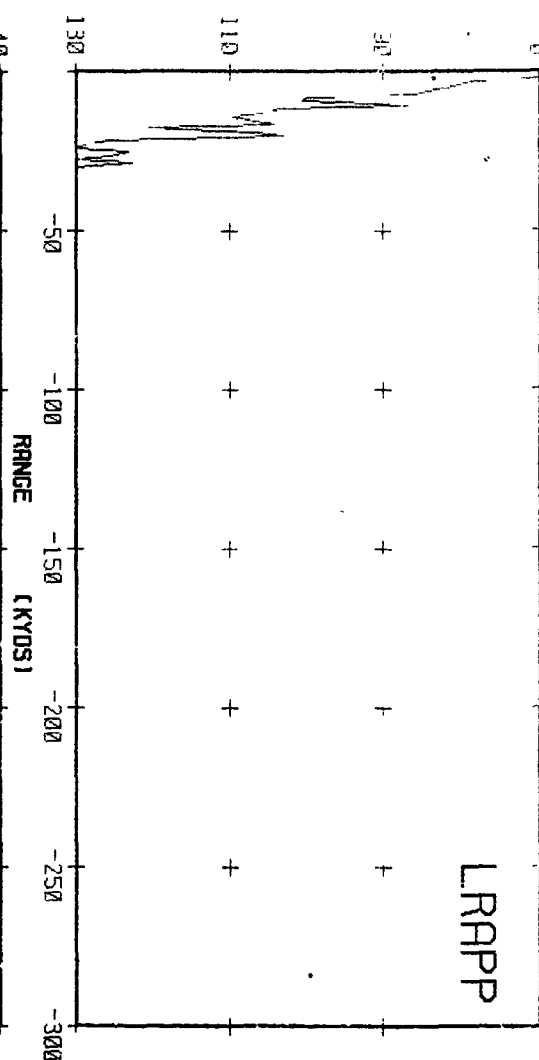


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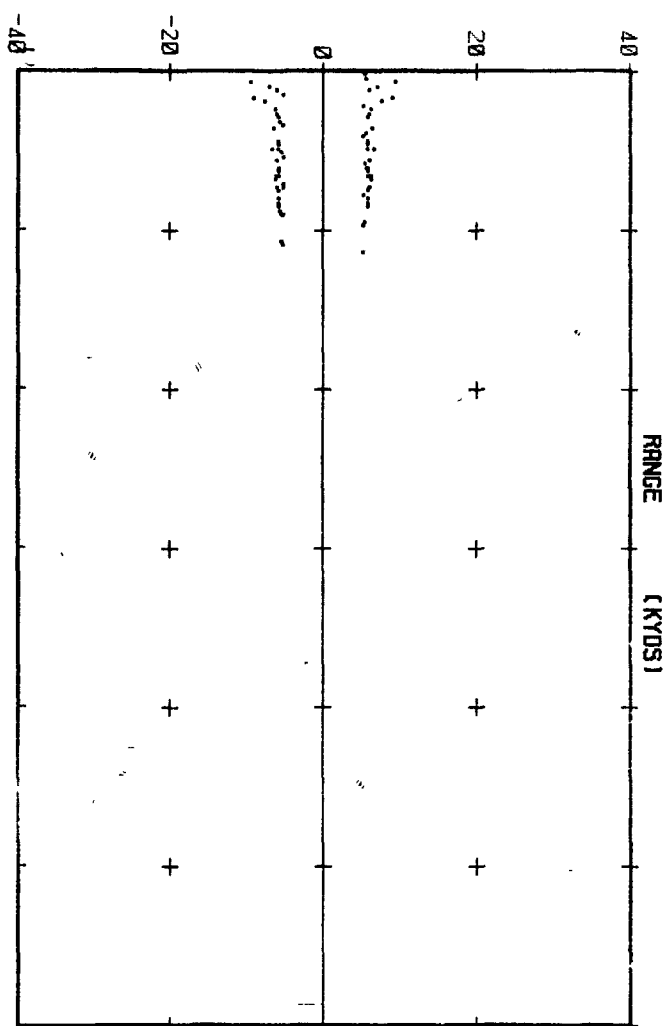
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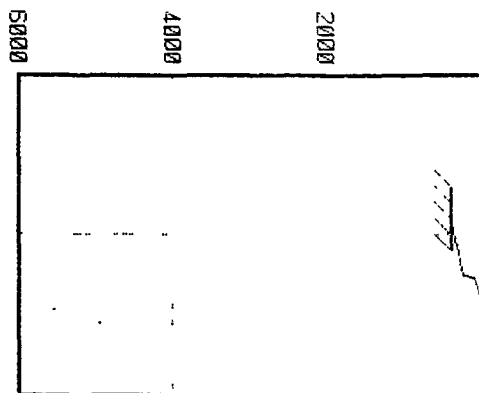
DB LOSS



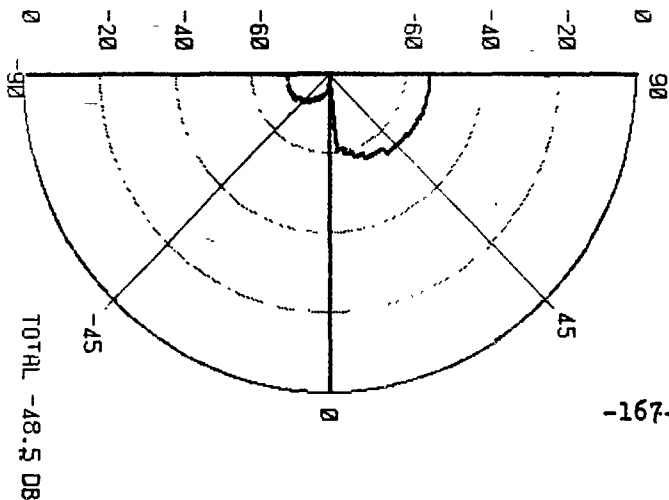
ARRIVAL ANGLE



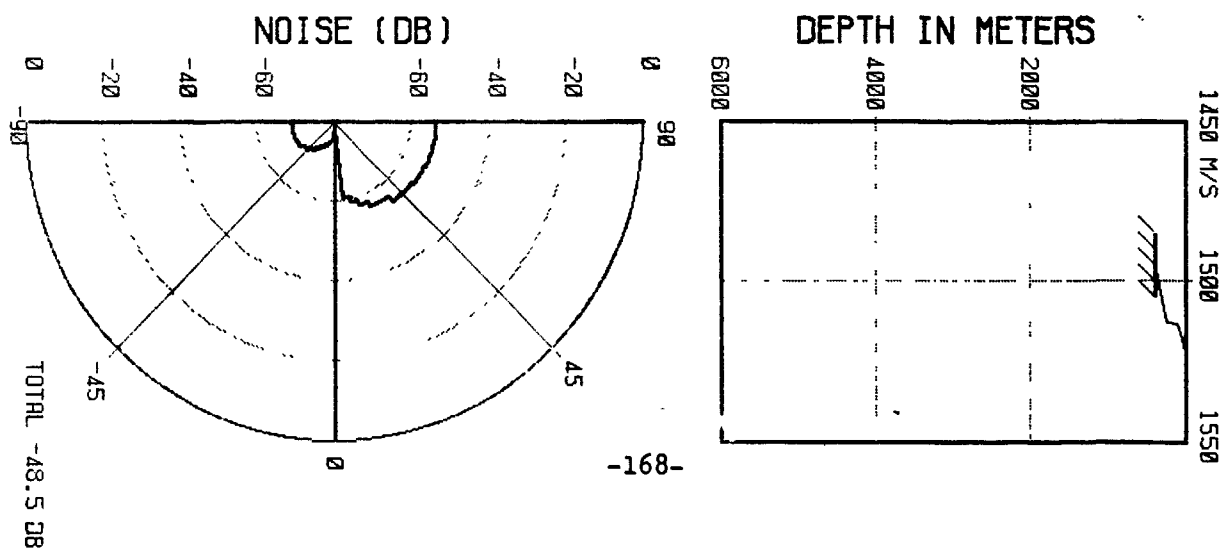
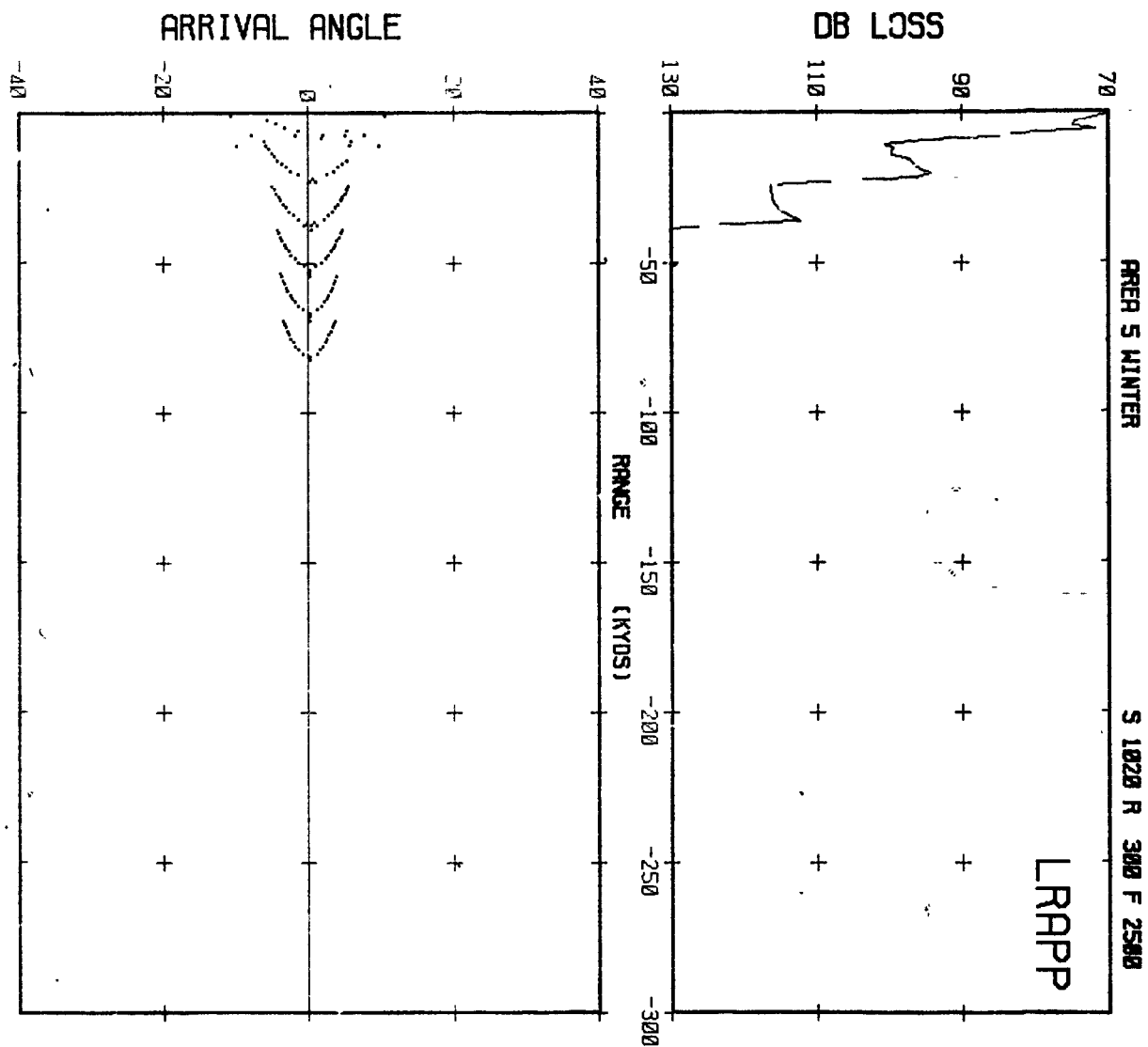
DEPTH IN METERS



NOISE (DB)



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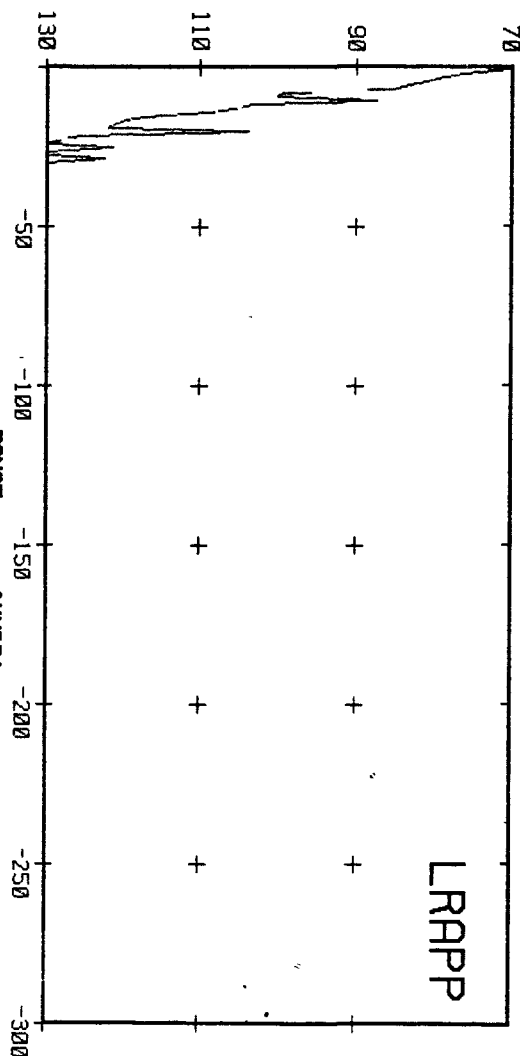


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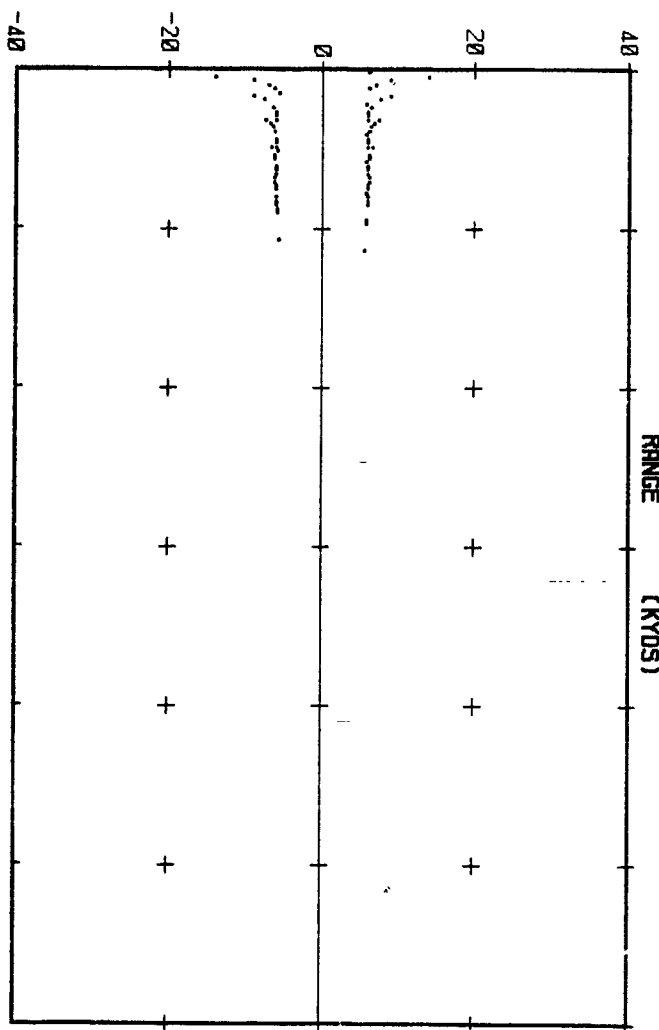
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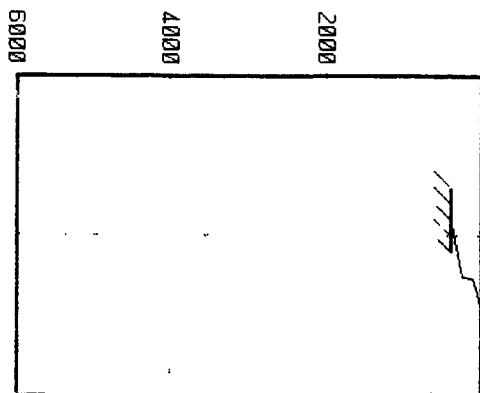
DB LOSS



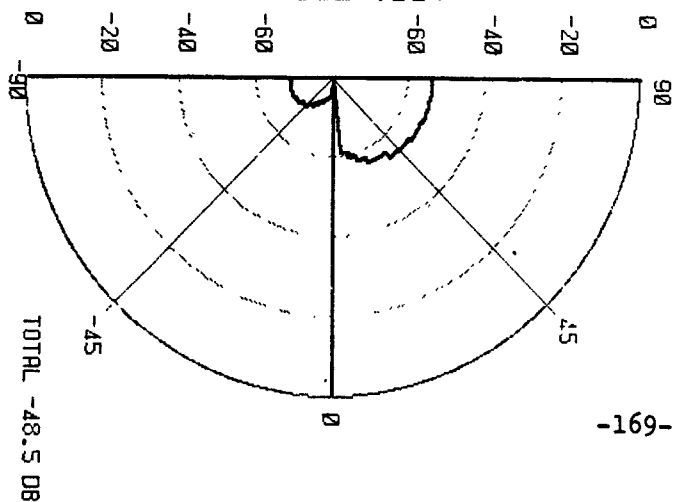
ARRIVAL ANGLE

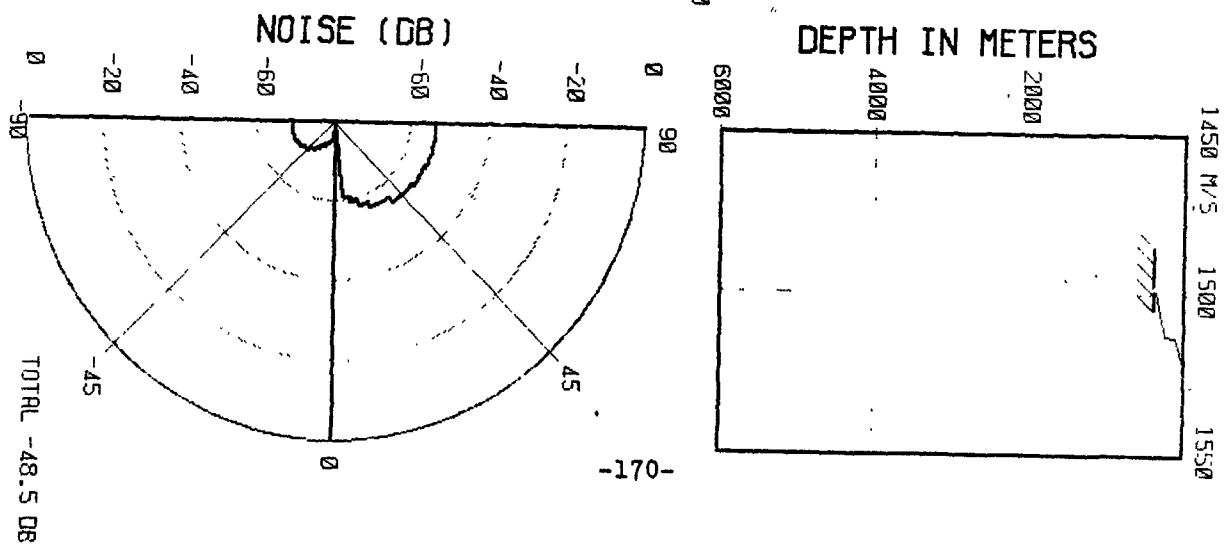
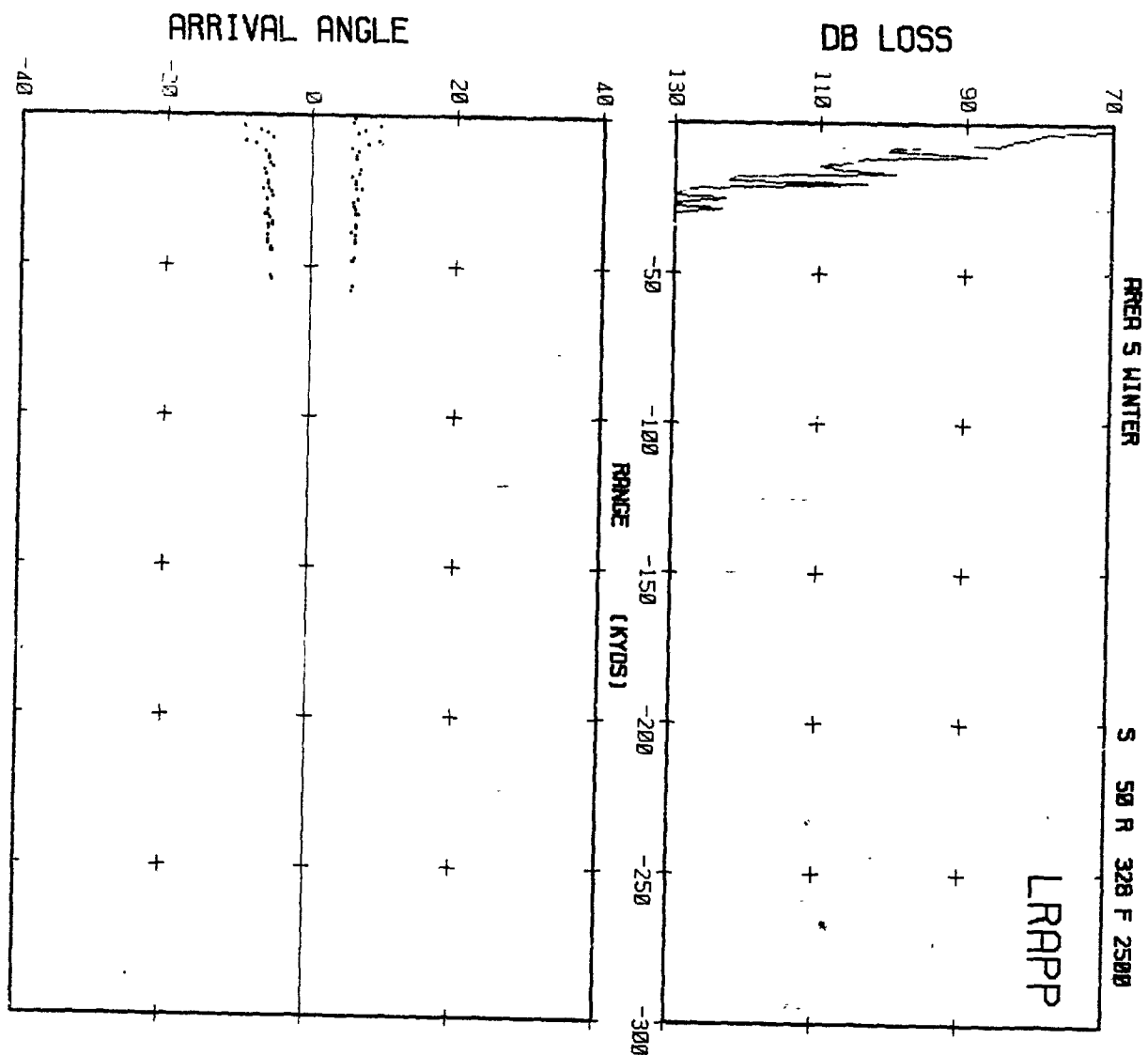


DEPTH IN METERS



NOISE (DB)



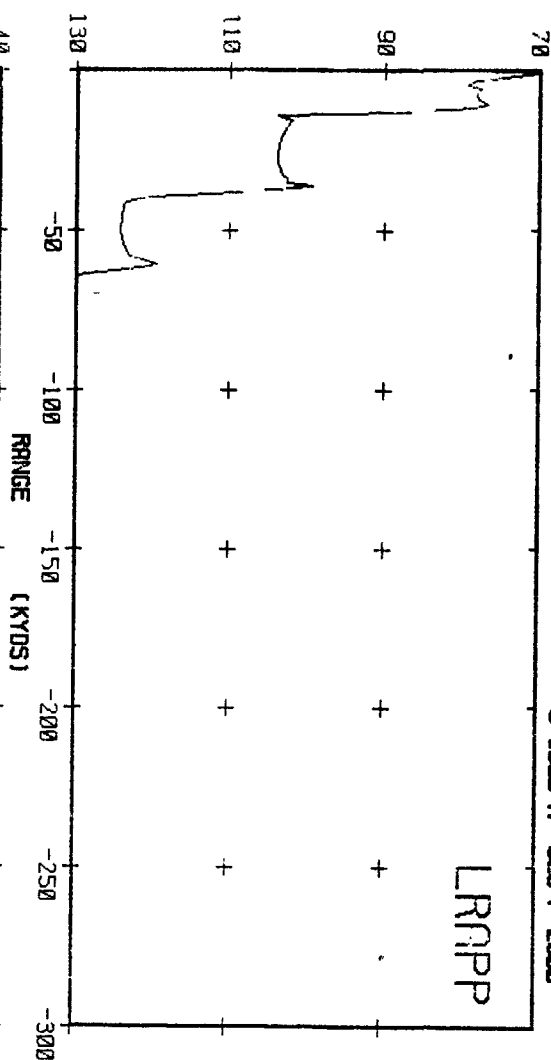


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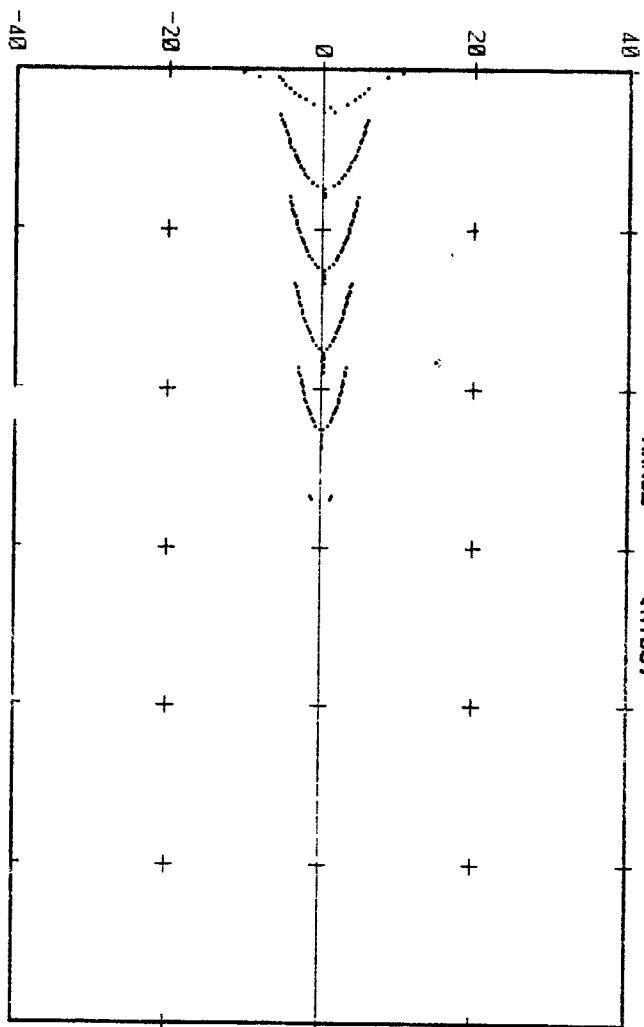
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LRNPP

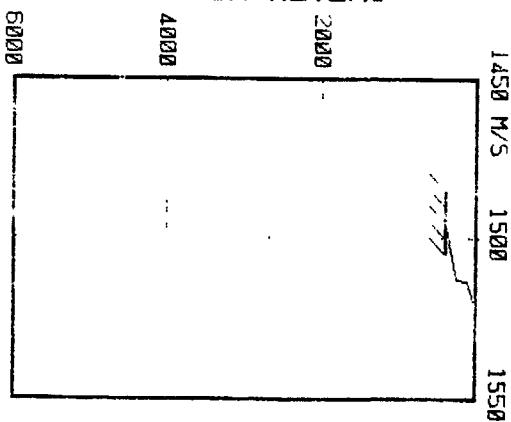
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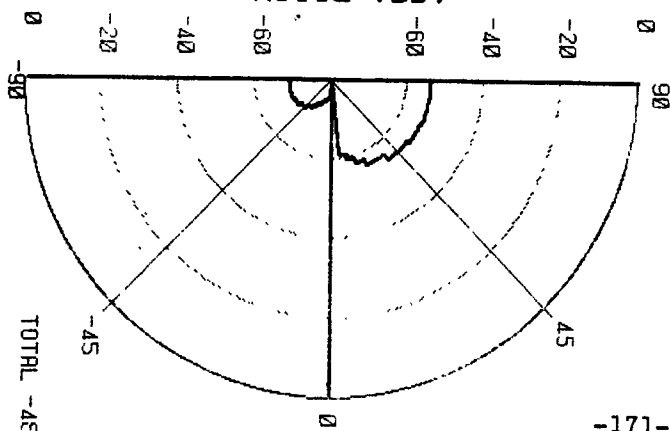
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



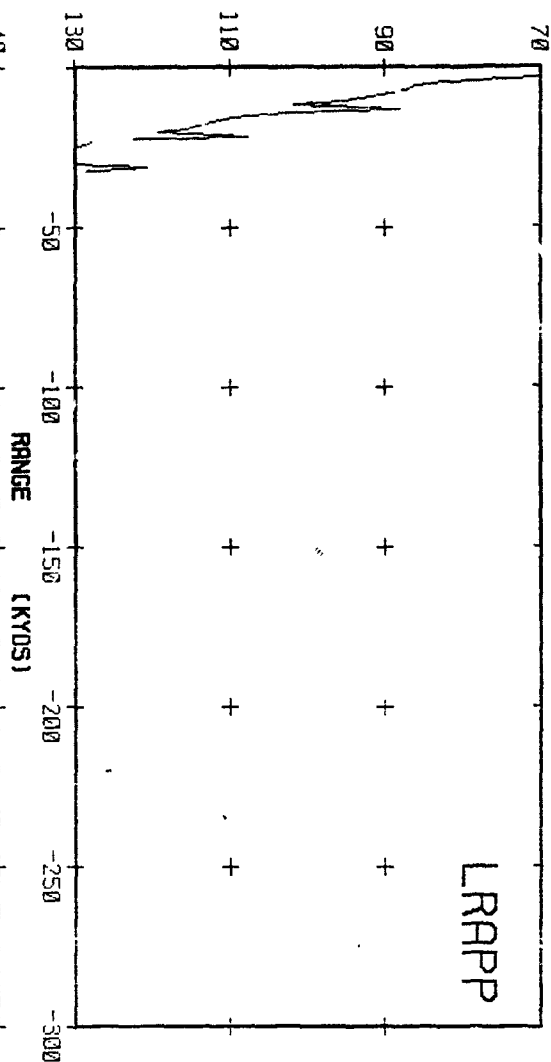
TOTAL -48.5 DB

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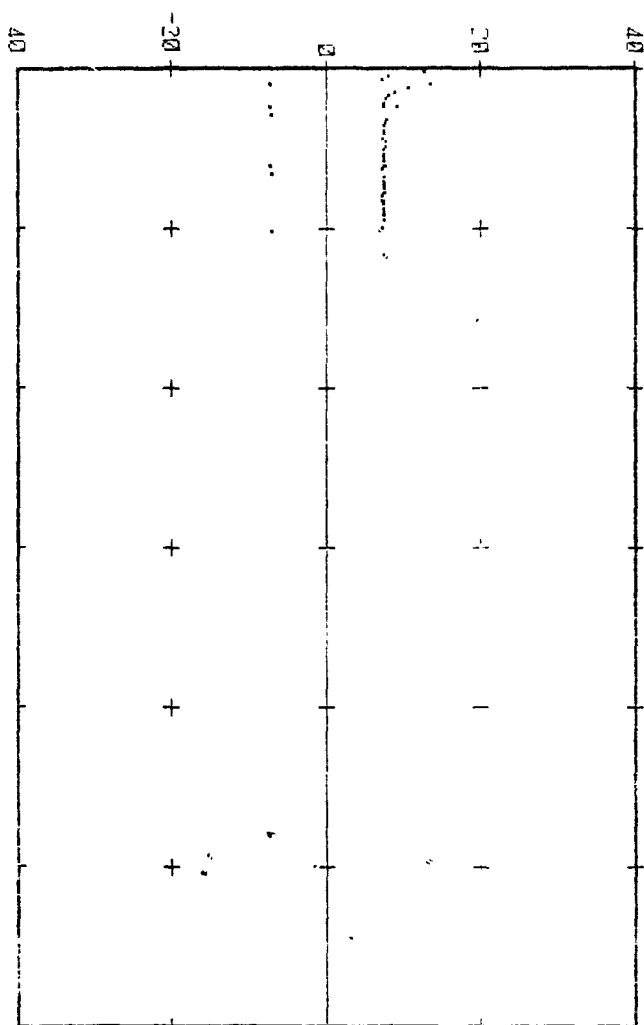
AREA 3 WINTER

S 20 R 920 F 2500

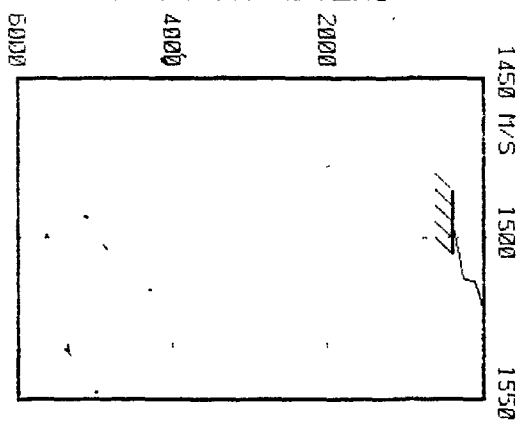
DB LOSS



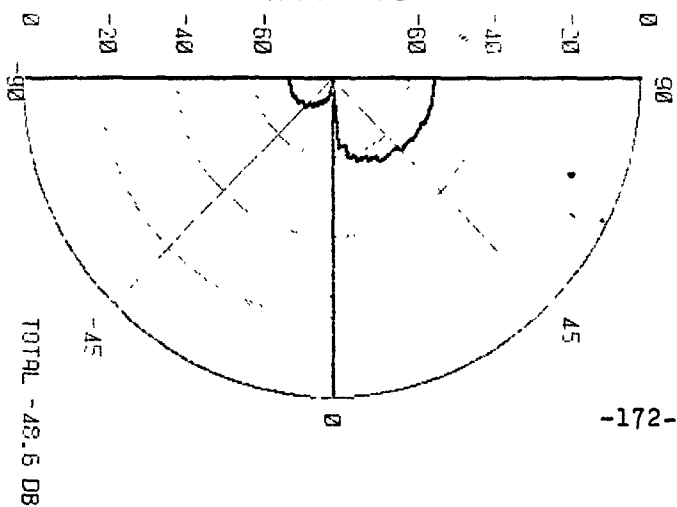
ARRIVAL ANGLE



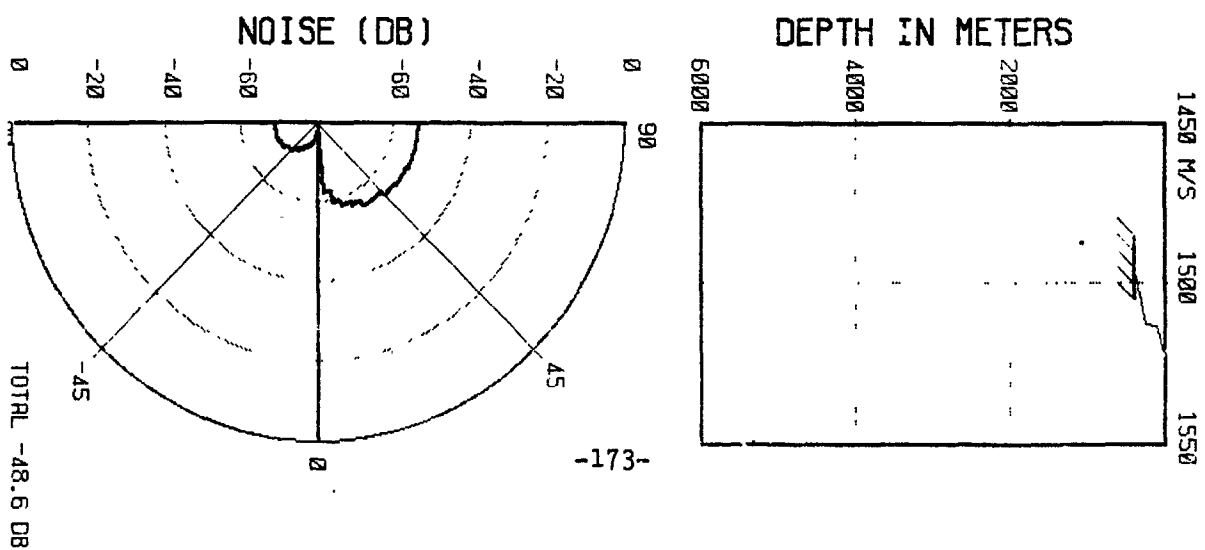
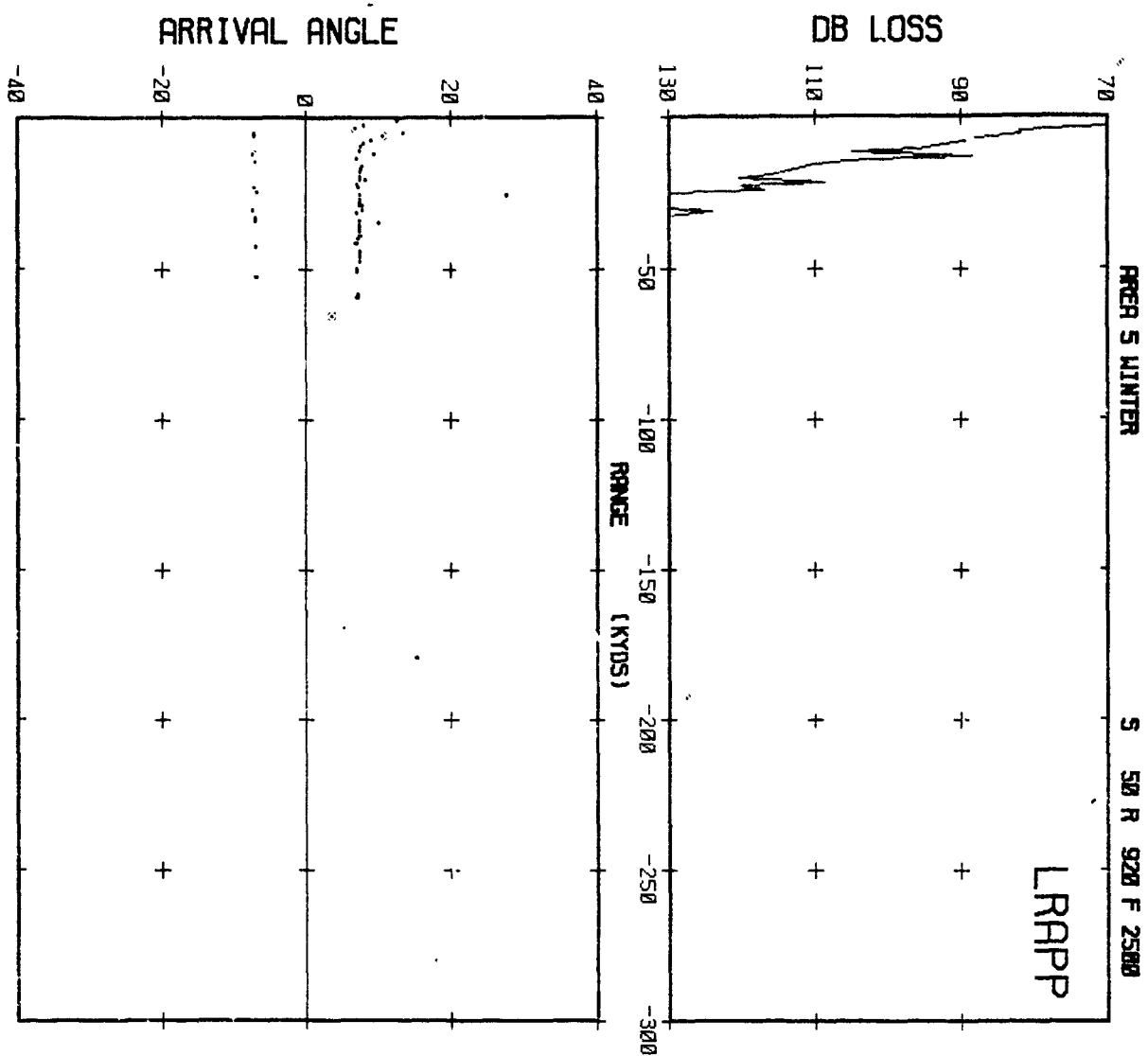
DEPTH IN METERS

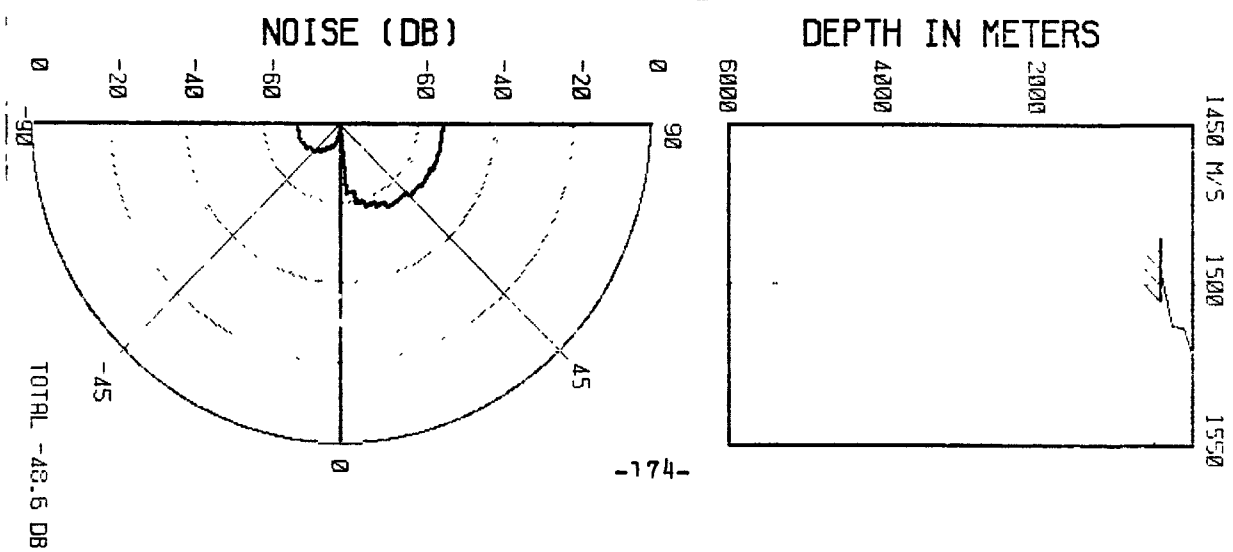
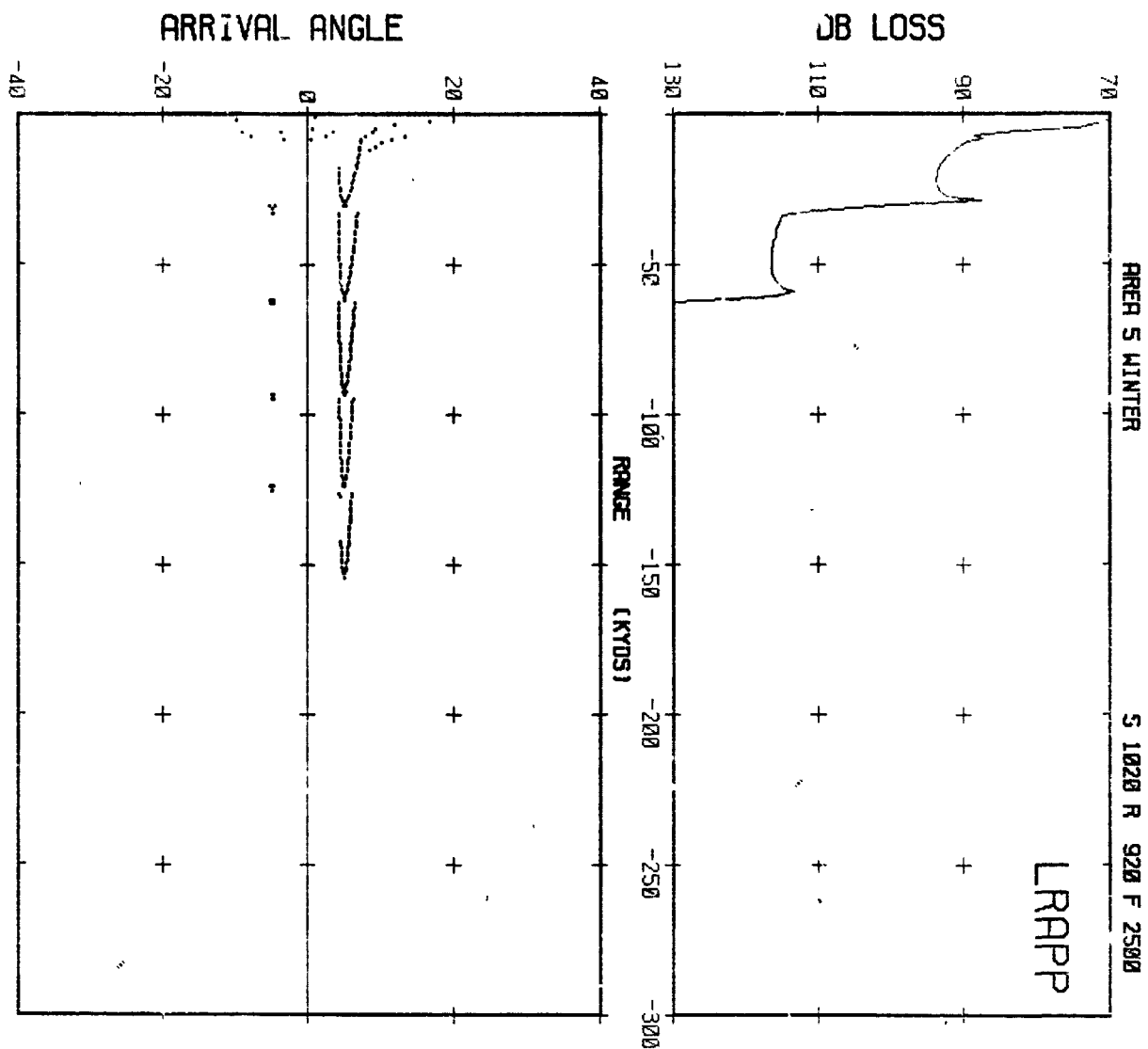


NOISE (DB)



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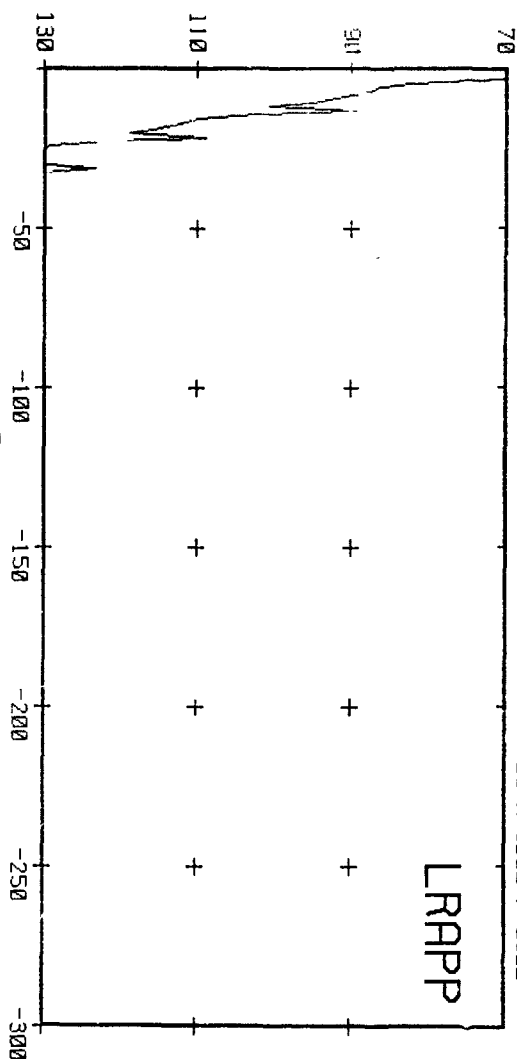


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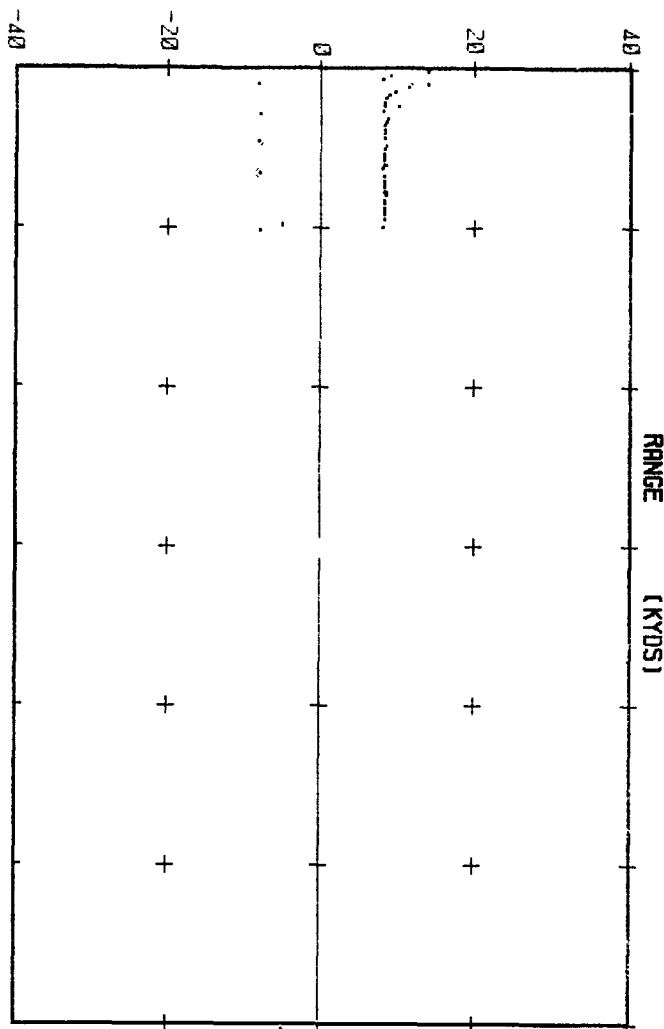
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1450 M/S 1500 1550

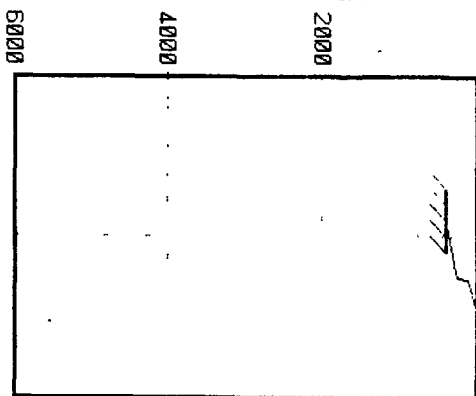
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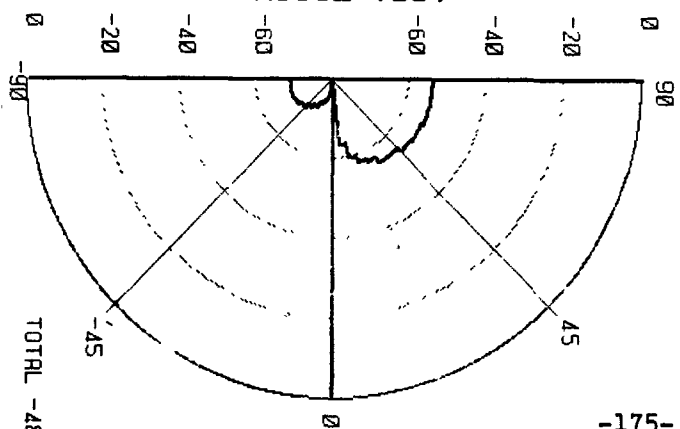
ARRIVAL ANGLE



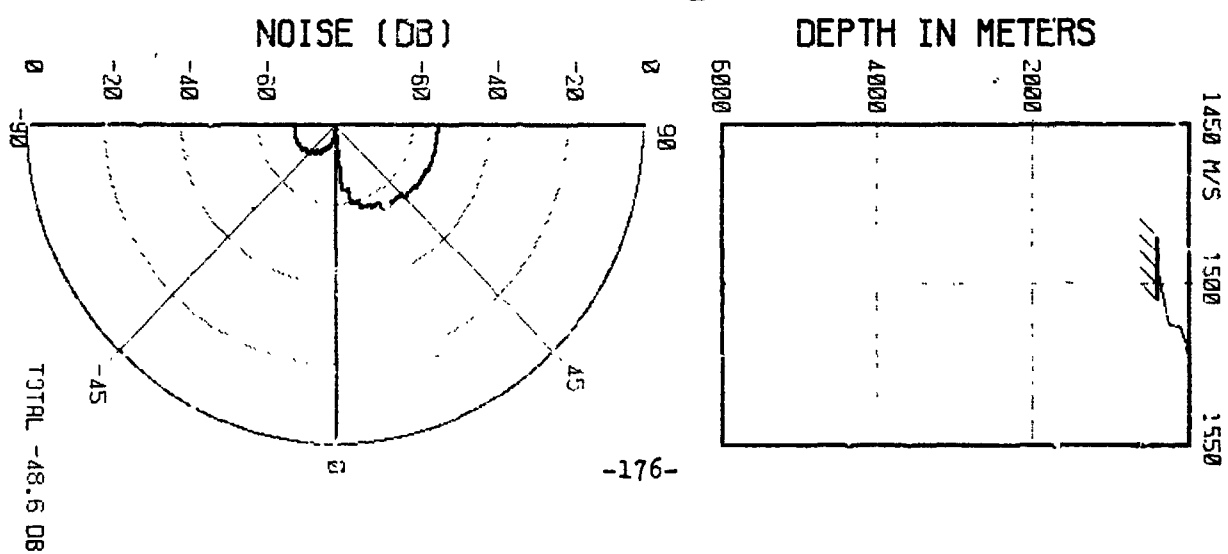
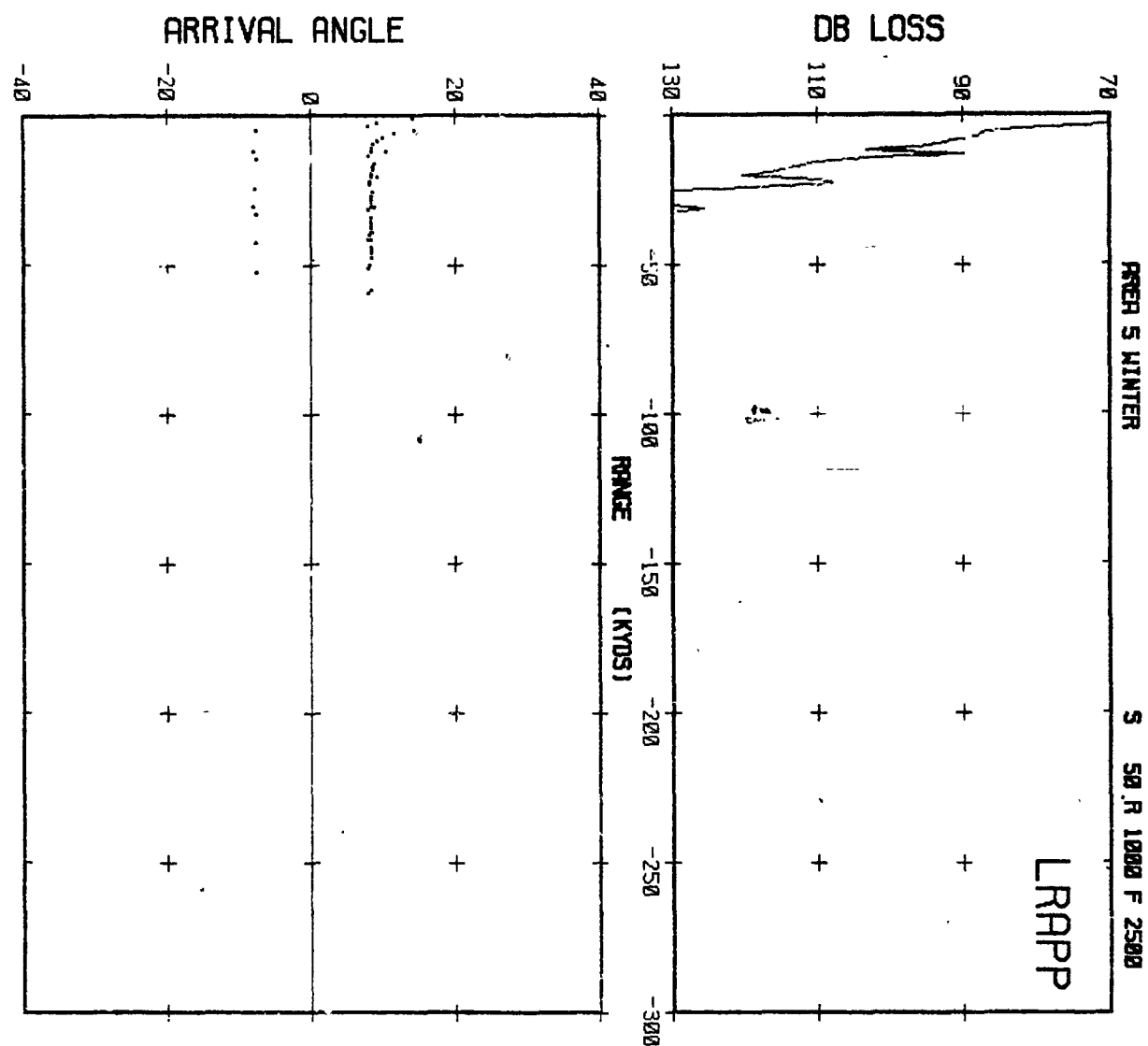
DEPTH IN METERS



NOISE (DB)



TOTAL -48.6 DB

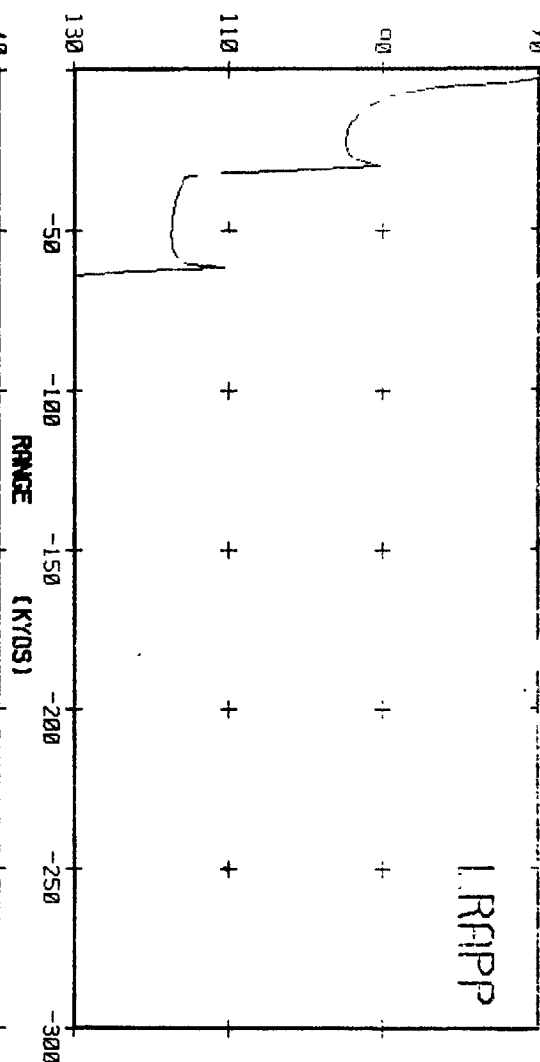


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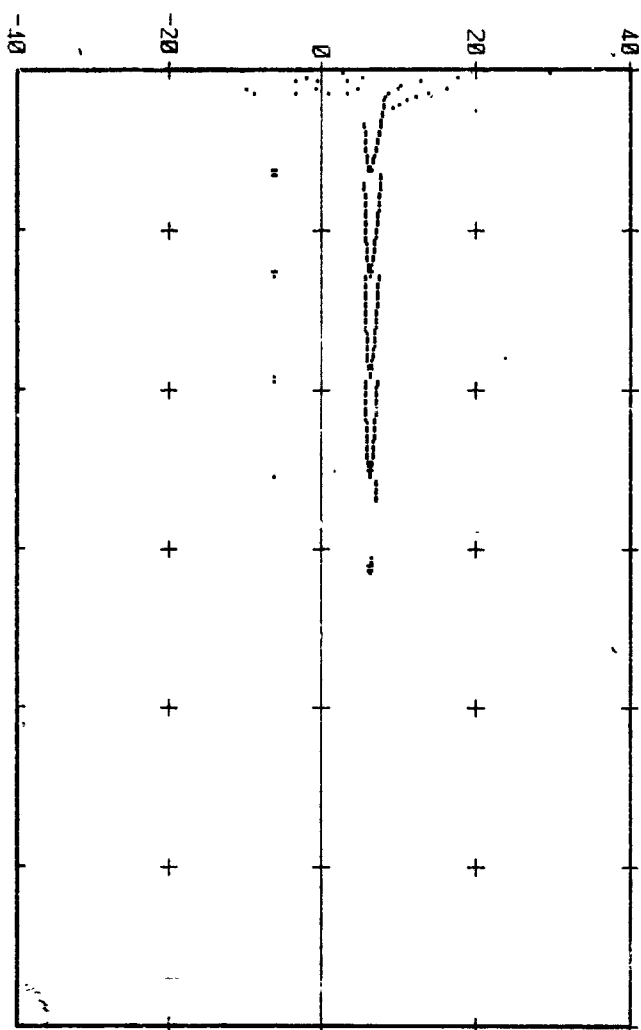
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L.RAPP

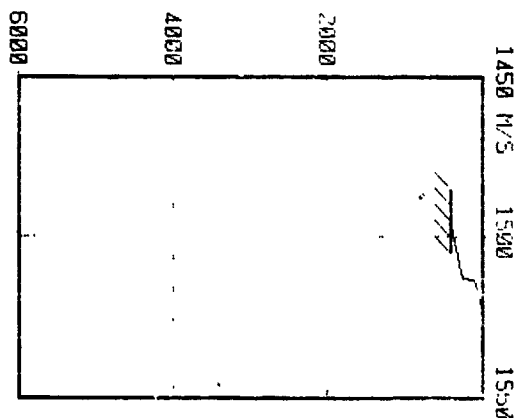
DB LOSS



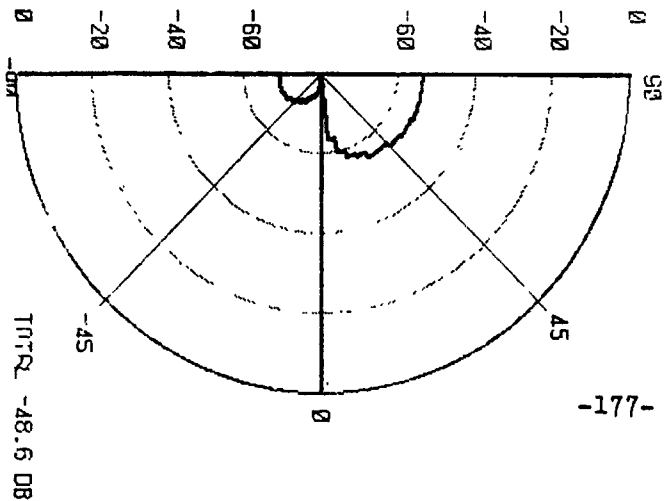
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



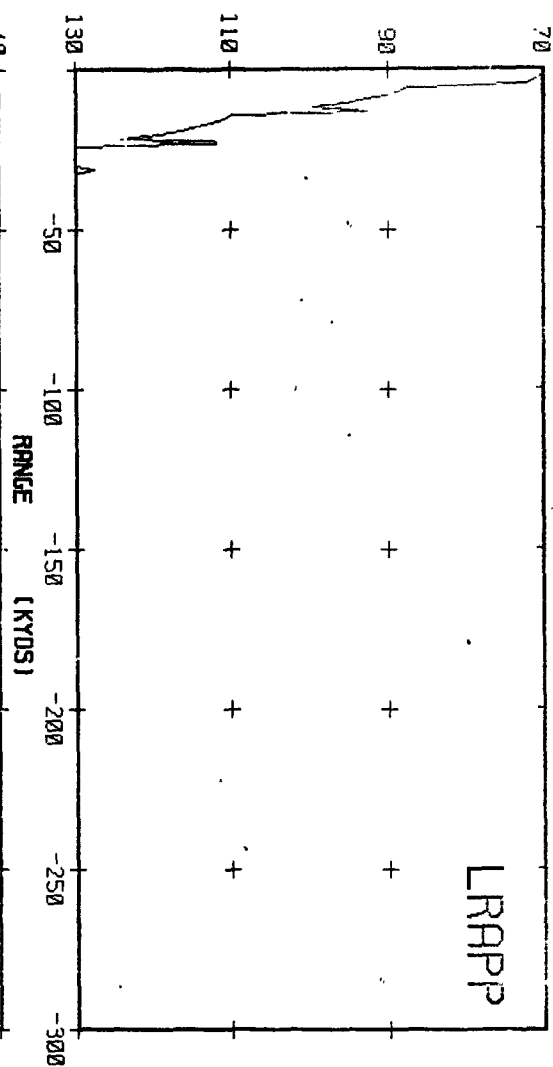
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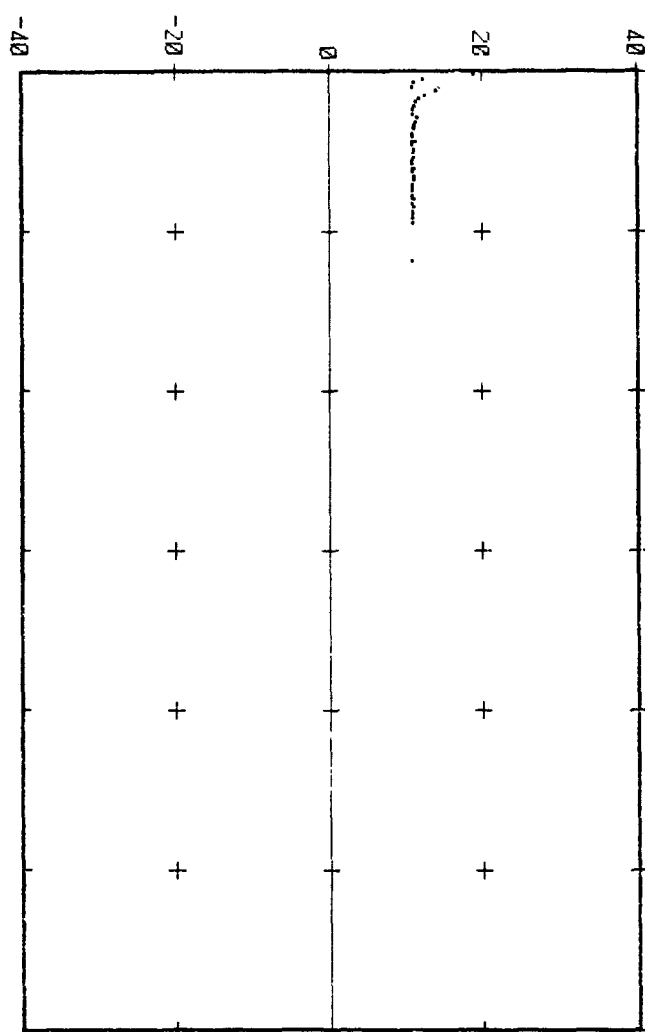
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LRAPP

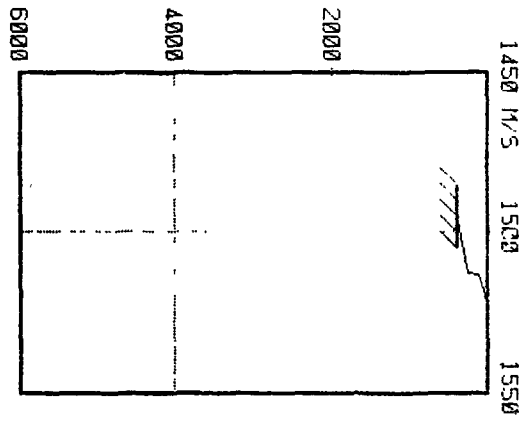
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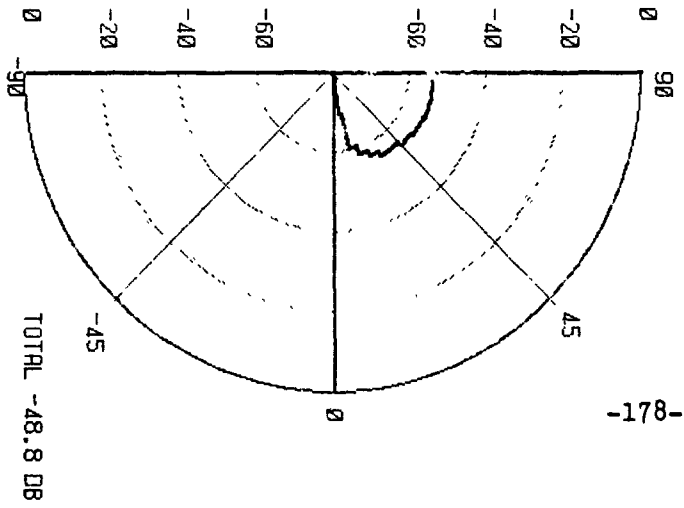
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

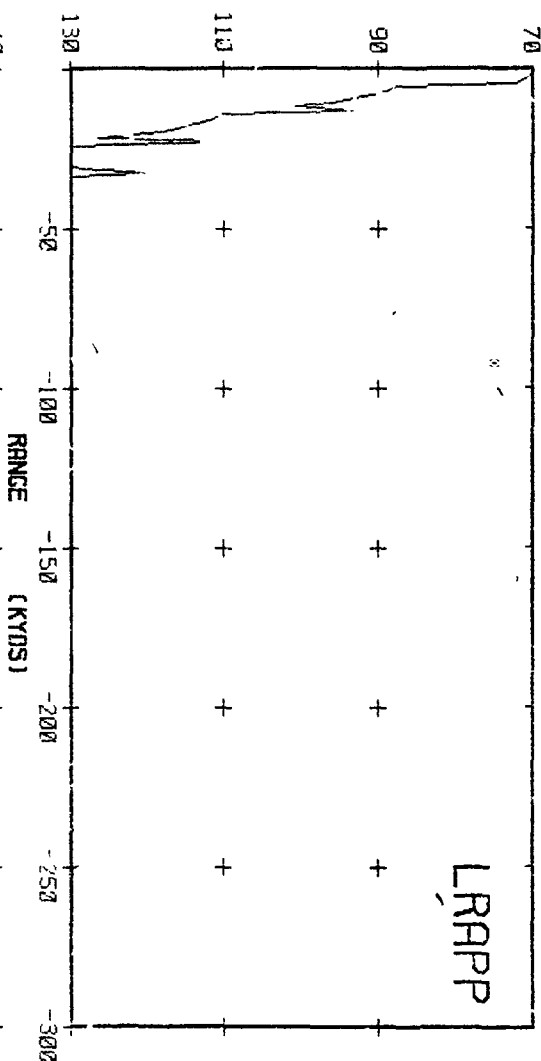


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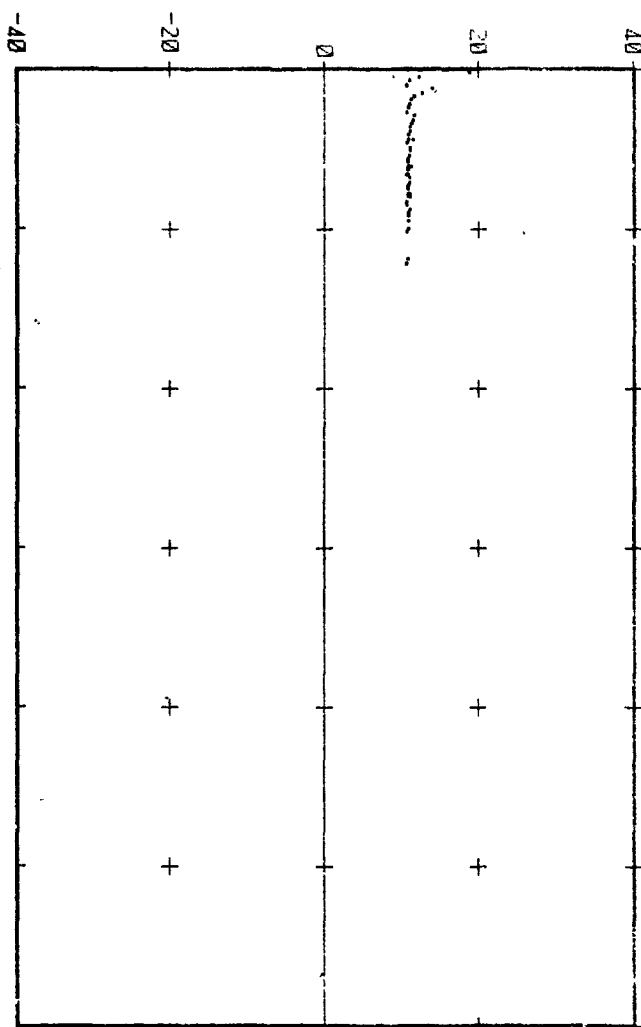
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1450 M/S 1500 1550

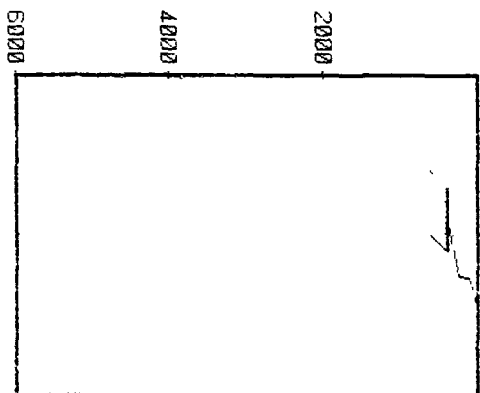
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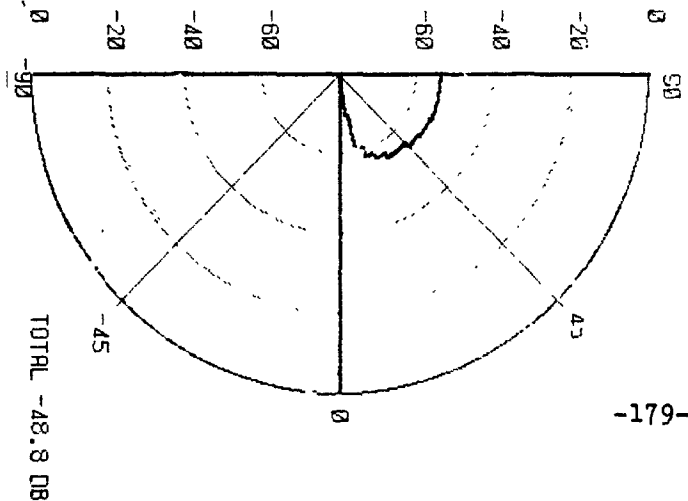
ARRIVAL ANGLE



DEPTH IN METERS

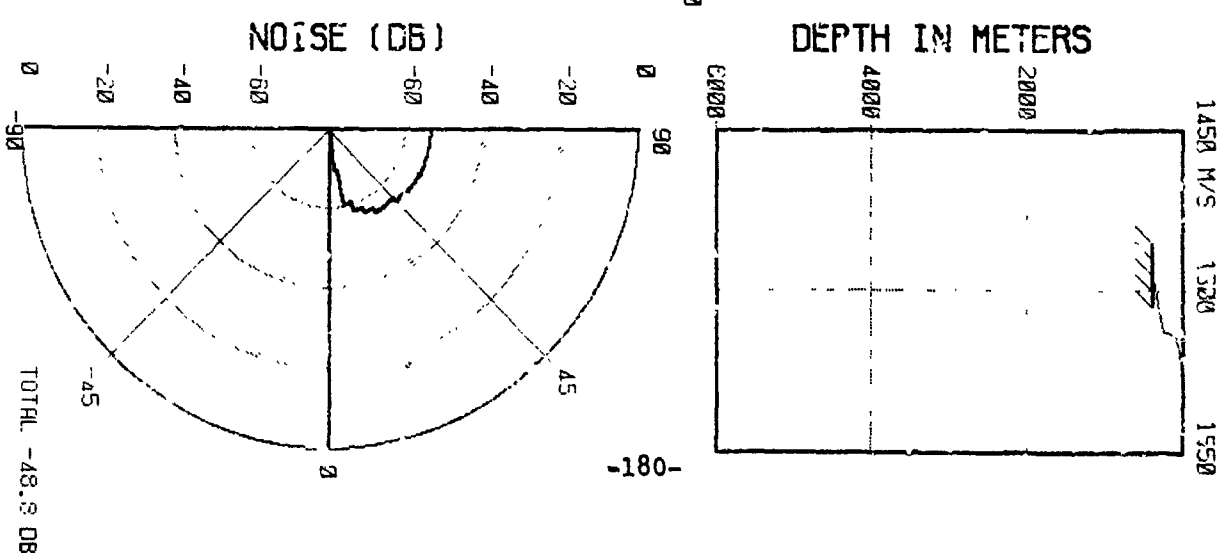
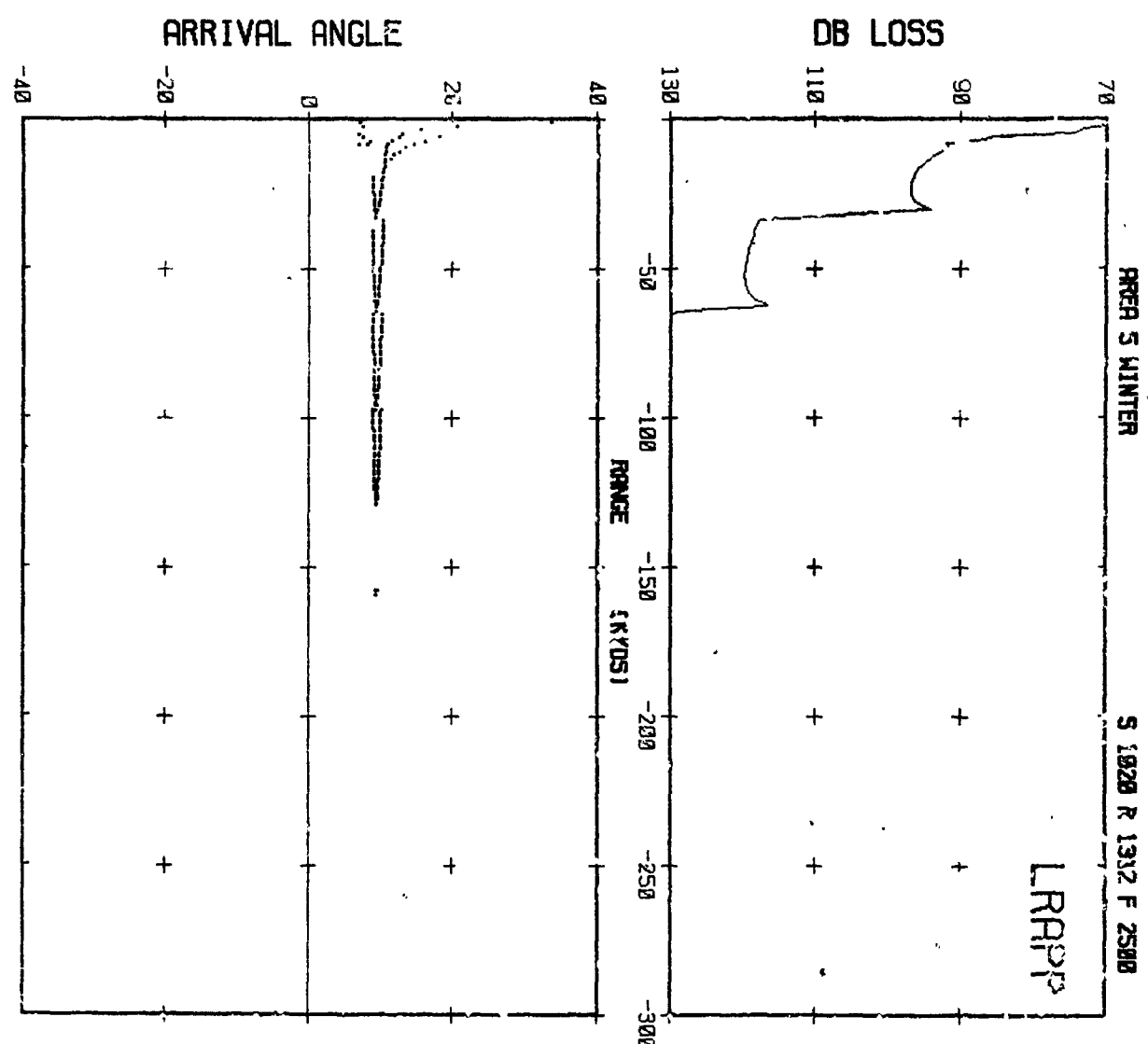


NOISE (DB)



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1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.





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SUITE 1425
ARLINGTON VA 22203-1995

IN REPLY REFER TO:

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31 Jan 06

MEMORANDUM FOR DISTRIBUTION LIST

Subj: DECLASSIFICATION OF LONG RANGE ACOUSTIC PROPAGATION PROJECT
(LRAPP) DOCUMENTS

Ref: (a) SECNAVINST 5510.36

Encl: (1) List of DECLASSIFIED LRAPP Documents

1. In accordance with reference (a), a declassification review has been conducted on a number of classified LRAPP documents.
2. The LRAPP documents listed in enclosure (1) have been downgraded to UNCLASSIFIED and have been approved for public release. These documents should be remarked as follows:

Classification changed to UNCLASSIFIED by authority of the Chief of Naval Operations (N772) letter N772A/6U875630, 20 January 2006.

DISTRIBUTION STATEMENT A: Approved for Public Release; Distribution is unlimited.

3. Questions may be directed to the undersigned on (703) 696-4619, DSN 426-4619.

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By direction

Subj: DECLASSIFICATION OF LONG RANGE ACOUSTIC PROPAGATION PROJECT
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| Report Number | Personal Author | Title | Publication Source (Originator) | Pub. Date | Current Availability | Class. |
|----------------|------------------------|---|--|-----------|---|--------|
| Unavailable | Unavailable | ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS FOR ASW. VOLUME VII. AREA 3A SUMMER PREDICTIONS FOR PASSIVE SONAR | Maury Center for Ocean Science | 721001 | AD0910342 | U |
| Unavailable | Unavailable | ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS FOR ASW. VOLUME VIII. AREA 3B WINTER PREDICTIONS FOR PASSIVE SONAR | Maury Center for Ocean Science | 721001 | AD0910343 | U |
| Unavailable | Unavailable | ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS FOR ASW. VOLUME IX. AREA 3B SUMMER PREDICTIONS FOR PASSIVE SONAR | Maury Center for Ocean Science | 721001 | AD0910344 | U |
| Unavailable | Unavailable | ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS FOR ASW. VOLUME V. AREA 2 SUMMER PREDICTIONS FOR PASSIVE SONAR | Maury Center for Ocean Science | 721001 | AD0911224 | U |
| Unavailable | Unavailable | ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS FOR ASW. VOLUME XI. AREA 4A SUMMER PREDICTIONS FOR PASSIVE SONAR | Maury Center for Ocean Science | 721001 | AD0912560 | U |
| Unavailable | Unavailable | ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS FOR ASW. VOLUME X. AREA 4A WINTER PREDICTIONS FOR PASSIVE SONAR | Maury Center for Ocean Science | 721001 | AD0916556 | U |
| MC-011 VOL. 14 | Unavailable | ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS FOR ASW. VOLUME XIV. AREA 5 WINTER PREDICTIONS FOR PASSIVE SONAR | Maury Center for Ocean Science | 721001 | AD0916557; ND | U |
| MC-011 VOL. 13 | Unavailable | ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS FOR ASW. VOLUME XIII. AREA 4B SUMMER PREDICTIONS FOR PASSIVE SONAR | Maury Center for Ocean Science | 721001 | AD0916610; ND | U |
| MCR008 | Goodman, R. R., et al. | THE NEAT 1 EXPERIMENT (U) | Maury Center for Ocean Science | 721001 | NS; ND | U |
| Unavailable | Cherry, W. R. | LRAPP BEAMFORMER | Scripps Institution of Oceanography Marine Physical Laboratory | 721015 | ADA081876 | U |
| ONR ACR-186 | Gregory, J. B. | PROJECT LRAPP TEST BED- TECHNOLOGY USED IN THE DEVELOPMENT OF A DEEP-OCEAN STABLE PLATFORM (U) | Office of Naval Research | 721024 | AD 615 2-3370
AD 615 2-3370 | U |
| MC-010 | Unavailable | CHURCH GABBRO EXERCISE PLAN- LRAPP (U) | Maury Center for Ocean Science | 721026 | ND | U |
| WHOI-72-87 | Daubin, S. C., et al. | THE ACODAC SYSTEM | Woods Hole Oceanographic Institution | 721101 | AD0756628; ND | U |
| NRLR7516 | Fleming, H. S., et al. | PROJECT NEAT 1 ENVIRONMENTAL DATA REPORT (U) (USNS J.W. GIBBS) | Naval Research Laboratory | 721129 | NS; ND
AD 52 3146 | U |